Custom Care Cleaners
Site Inspection

Vancouver, Washington

Technical Direction Document Number: 13-09-0005

July 2014

Prepared for:
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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List of Abbreviations and Acronyms

Acronym	Definition
µg/L	Micrograms per Liter
BGS	Below Ground Surface
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CMU	Concrete Masonry Unit
DOH	Washington State Department of Health
Dx	Diesel Extended
E & E	Ecology and Environment, Inc.
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
HCID	Hydrocarbon Identification
MRL	Method Reporting Limit
MTCA A	Model Toxics Control Act Method A
NPL	National Priorities List
NWTPH	Northwest Total Petroleum Hydrocarbon
PCE	Perchloroethylene
PNE	Pacific Northern Environmental Corporation
ppm	Parts Per Million
SI	Site Inspection
START	Superfund Technical Assessment and Response Team
TDD	Technical Direction Document
TDL	Target Distance Limit
UST	Underground Storage Tank
VOC	Volatile Organic Compound
VWS	Vancouver Water Station
WAC	Washington Administrative Code

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1 Introduction

Ecology and Environment, Inc., (E & E) was tasked by the United States Environmental Protection Agency (EPA) to provide technical support for completion of a non-sampling Site Inspection (SI) at the Custom Care Cleaners site in Vancouver, Washington. This SI is based on an evaluation of existing information and interviews conducted with individuals knowledgeable about the site. E & E performed SI activities for this project under Technical Direction Document (TDD) number 13-09-0005 of the EPA Region 10, Superfund Technical Assessment and Response Team (START)-IV, Contract Number EP-S7-13-07.

The specific goals for this SI, as identified by the EPA, are:

- Determine the potential threat to public health or the environment posed by the site;
- Determine the potential for a release of hazardous constituents into the environment; and
- Determine the potential for placement of the site on the National Priorities List (NPL).

Completion of the SI included reviewing existing site information, collecting receptor information within the range of site influence, determining regional characteristics, and conducting a site visit.

This document includes a discussion of background site information (Section 2), a discussion of migration/exposure pathways and potential receptors (targets) (Section 3), a summary of site conditions and a discussion of conclusions (Section 4), and a list of pertinent references (Section 5).

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2 Site Background

2.1 Site Location

Site Name:	Custom Care Cleaners
CERCLIS ID Number:	WAN001002994
State Cleanup ID:	3024
State Facility ID:	1049
Site Address:	6319 East Mill Plain Boulevard Vancouver, Washington 98661
Latitude:	45.62785
Longitude:	-122.60704
Legal Description:	Township 2 North, Range 2 East, Section 72
County:	Clark
Congressional District:	3
Site Owner(s):	Park Hill Shopping Center, LLC C/O Thompson and Associates, CPA 915 Broadway, Suite 310 Vancouver, Washington 98660
Site Operator(s):	Custom Care Cleaners Mark and Pamela Ickert 6319 East Mill Plain Boulevard Vancouver, Washington 98661
Site Contact(s)	Greg Memovich

2.2 Site Description

Custom Care Cleaners is the current name of a dry cleaning business located in the Park Hill Shopping Center in Vancouver, Washington (Figure 2-1). There are a total of four buildings on the Park Hill Shopping Center property, including one east/west-oriented strip mall building, one north/south-oriented strip mall building, and two single business structures (Figure 2-2). Custom Care Cleaners is located in the east/west-oriented strip mall building.

The Park Hill Shopping Center is located at an elevation of approximately 305 feet above sea level, on land that slopes towards the south/southeast. The parking lot is asphalt paved. Gravel-covered areas are present behind the buildings on their southern side. Much of the southern portion of the property is grass covered. Storm drains are present in the parking lot to manage surface water runoff. The facility is located approximately 1.2 miles north of the Columbia River. The property is provided sewer and water services by the municipality.

Surrounding land use in the area of the site includes commercial property along East Mill Plain Boulevard, with additional retail shopping to the east, and a cemetery located on the western adjacent parcel. Residential development is located to the north beyond East Mill Plain Boulevard and southeast of the Park Hill Shopping Center property. A 76-brand gas station is located northeast of the site (Figures 2-2 and 2-3). Two schools, George C. Marshall Elementary and McLoughlin Middle School, are located approximately 0.2 mile south and southwest of the site, respectively (Figure 2-1).

2.3 Ownership and Development History

The Park Hill Shopping Center was first constructed in 1947 (Lane County, n.d.). An aerial photograph from 1951 shows this construction, with what appears to be the northern portion of the current day Custom Care Cleaners tenant space present, and the strip mall extending east from there and parallel to East Mill Plain Drive (Figure 2-3). A 1960-dated aerial photograph depicts a building remodel that changed the building layout to be similar to the present day layout (Figure 2-4). A 1970-dated aerial photograph depicts the Custom Care Cleaners tenant space having been expanded to the south, and much of the area currently occupied by Custom Care Cleaners is constructed (Figure 2-5). A small unenclosed area is visible on the southern portion of the space; this unenclosed area is also depicted on a circa-1991 building floor plan on file with the Clark County Assessor (Lane County, n.d.). The inset area was enclosed sometime after 2002. The 1970-dated aerial photograph also shows that the north/south-oriented strip mall building had been constructed by this time.

The earliest record of ownership for the onsite dry cleaning business is from 1987, when the business was owned by Ron Griffee and known as Griffey or Griffee's Cleaners (Stasch 1987; Ecology 1987). The business was sold to Mark Ickert in 1989 (the exact date is not known) and the name of the business was changed to Custom Care Cleaners (Ecology, n.d.).

The Park Hill Shopping Center property was purchased by the Memovich family in March of 1973. Based on notes in the County assessor's field folio, by 1991, the Lane County Tax Assessor was aware of the potential presence of contamination on/at the property (Lane County, n.d.). In December of 2004 (Lane County 2004), ownership of Park Hill Shopping Center was rolled into Park Hill Shopping Center, LLC, and Terry Phillips of the Phillips Group assumed property management responsibilities (Phillips 2013).

2.4 Operations and Waste Characteristics

In May 1987, the Washington State Department of Ecology (Ecology) issued a letter to Mr. Griffee, the business owner at the time, regarding proper disposal measures for sludges and a request that Mr. Griffee apply for a state/EPA Dangerous Waste Identification number (Stasch 1987). Mr. Griffee submitted a Notification of Dangerous Waste Activities form to Ecology on June 10, 1987. The form lists the dangerous wastes used as cleaning filters (10 annually) and

solvent sludge (100 gallons per year). No additional generator manifests were included with the form.

On December 19, 1989, Ecology conducted a hazardous waste inspection of the cleaning facility. The inspection report noted that the facility was using a still to purify spent "perc" (assumed to be perchloroethylene (PCE), a common dry cleaning solvent) and that residual water was being disposed of down a sink. The inspector informed the business owner (Mr. Ickert) that this practice should cease immediately and that the water should be added to the PCE sludge that was collected by Safety Kleen for disposal. Prior to the use of PCE in the cleaning process, the facility used Stoddard solvent. No information was available regarding when the process changed (Ecology, n.d.).

The Stoddard solvent equipment was stored in an unused room at the business. The inspector noted a pipe, which appeared to have been disconnected from the Stoddard equipment, passing through an exterior wall, and leading to a partially buried drum (Figure 2-6). The drum could not be opened by removing the top, so the inspector punctured the top of the drum to ascertain its contents. The drum was approximately half full of liquid and smelled like Stoddard solvent. The inspector informed Mr. Ickert that the contents would need to be disposed of properly (Ecology, n.d.).

On January 19, 1990 the inspector returned to the site, the contents of the drum were pumped into five 5-gallon containers for disposal, and a sample of the liquid was collected. After the drum was pumped out, approximately 11 holes were noted below the level of the removed liquid, and the inspector surmised the drum had been used as a disposal system. The inspector then dug around the drum, noted evidence of contaminated soil, and collected a soil sample from approximately 2.5 feet below ground surface (bgs). The inspection report states: "the laboratory results showed the material was likely Stoddard solvent" (Ecology, n.d.). The analytical report indicated the Stoddard was present at 129,353 parts per million (ppm). Volatile organic compounds (VOCs) detected in this sample included ethylbenzene, toluene, and xylene (Ecology 1990).

The inspector then directed Mr. Ickert to remove the drum from the ground, line the hole with plastic, and backfill the hole with gravel. The final note on the inspector's report indicates that the project would be referred to Ecology's cleanup program. Available Ecology files do not include any further information regarding a cleanup at the site (Ecology, n.d.).

With regard to the location of the drum, Ecology field notes provide little detail, and include only a non-scaled drawing depicting the "dry clean operation" as a rectangle from which an apparent pipe extended to a "buried drum." The drawing does not include a north arrow, does not show from what part of the dry cleaner the pipe extended, nor does it provide other geographic reference points.

During the site visit conducted by START in support of this SI on May 30, 2014, information provided by Mr. Ickert placed the Stoddard equipment, still,

discharge pipe, and drum on the southern side of the business. More specifically, the buried drum had been located in what was an unenclosed area inset into the southern side of the building (Figure 2-6). As will be discussed in Section 2.5, an underground storage tank (UST) was also present in this area.

2.4.1 Current Business Practices

Stoddard solvent is no longer used in the dry cleaning process at Custom Care Cleaners, and the facility has not used PCE since 2000 (Ickert 2013). Currently, the facility uses two types of "green" hydrocarbon-based dry-cleaning solvents, ExxonMobil Chemical product DF-2000, or EcoSolv produced by Chevron Phillips. Filters and sludges are removed on a regular basis and transported offsite for disposal by Safety Kleen (Ickert 2014).

2.4.2 Potential Sources

Stoddard solvent was reportedly discharged to the soil surrounding the buried drum at the site. Stoddard solvent is a widely used, man-made, organic solvent that results from the refining of crude oil. It is a petroleum mixture made from distilled alkanes, cycloalkanes (naphthenes), and aromatic compounds. It typically contains small percentages (i.e., <0.4%) of acenaphthene, naphthalene, acenaphthylene, and tricyclicoaromatics (ATSDR 1995).

Custom Care Cleaners has also been investigated in connection with PCE and related breakdown products historically detected in City of Vancouver municipal wells (Vancouver Water Station-4). As will be discussed in further detail in the following section, while PCE was detected at and proximal to Custom Care Cleaners, the concentrations encountered were well below those detected in the well field and, as such, Custom Care Cleaners was not considered a likely source of the impacts.

2.5 Previous Investigations

In addition to the hazardous waste inspection report in the Ecology file, during a conversation with the property manager and the owner of Custom Care Cleaners, it was revealed that extensive sampling work had occurred in the vicinity of the site. Upon reviewing existing information, the START learned that the Custom Care Cleaners property had been investigated in conjunction with EPA's characterization and remedial work for the Vancouver Water Station-4 NPL site. The Vancouver Water Station-4 well field is located downgradient and approximately 1 mile southwest of Custom Care Cleaners (Figure 2-1).

As a public water system, the Vancouver Water Station-4 wells were subject to regular sampling and testing to monitor drinking water quality. In the late 1980s, regulations for sampling and testing were changed to also require that water would be tested for VOCs. Testing for these constituents consistently detected PCE in ground water drawn from wells at Vancouver Water Station-4. PCE was also detected in another well field (Vancouver Water Station-1) in the city, though at lower relative concentrations (EPA 1999a).

In response to these findings, Vancouver Water Station-4 was temporarily taken offline in 1989, an air stripping system installed to remove PCE from the water, and preliminary investigatory tasks were implemented in an attempt to identify the PCE source. These preliminary steps included sampling private wells, surface water sources, and industrial sumps proximal to Vancouver Water Station-4 during that same year. After these steps, the study area was broadened to look at dry cleaning businesses north and upgradient of Vancouver Water Station-4, with further steps taken through 1992 that included sampling and testing of existing wells, newly installed monitoring wells, and soil gas. This work identified several dry cleaners as potential contamination sources, one of which being Custom Care Cleaners (EPA 1999a).

Specific to Custom Care Cleaners, soil gas survey work in this area conducted in 1992 identified PCE proximal to the business. The highest PCE soil gas level at the Custom Care Cleaners property was identified in a "pit" sample. Based on information obtained during this study, the pit sample appears to have been collected near the buried drum identified at the site by Ecology in 1989. Soil gas concentrations diminished to below detectable levels approximately 300 feet south of Custom Care Cleaners (EPA 1992). With respect to ground water, multiple samples were collected from downgradient monitoring wells, some of which were screened at multiple depths. Of these ground water samples, the highest PCE concentrations (23 µg/L and 8.6 µg/L) were detected in a shallow and deep well-pair (MW4-8S and MW4-8D) located approximately 350 feet southwest and cross- to down-gradient of Custom Care Cleaners. PCE concentrations in the intermediate depth well at this location (MW4-8I) were much lower, reaching a high of 1.1 µg/L (EPA 1999b). However, all of these concentrations were well below those detected in the Vancouver Water Station-4 study area drinking water wells (i.e., with concentrations ranging up to 1,600 µg/L in a private well). As such, Custom Care Cleaners was not considered a likely source of the PCE impacts to Vancouver Water Station-4.

More recently, in 2002, Steve Memovich, the previous property owner for Park Hill Shopping Center, engaged the services of Pacific Northern Environmental Corporation (PNE) to remove and permanently decommission three USTs at the Park Hill Shopping Center. These USTs included two 800-gallon USTs and one 1,000-gallon UST used to store heating oil (Figure 2-6). A copy of the UST decommissioning document prepared by PNE for Mr. Memovich is contained in Appendix A.

The two 800-gallon USTs were located directly north of the Custom Care Cleaners tenant space (PNE 2002). The two USTs appear to have been adjacent to one another and to have been removed from a single excavation. Apart from limited surface corrosion, both tanks appeared to be in good condition, free from holes, and no soil staining was noted during excavation. After removal, soil samples were collected from beneath the ends of both tanks, and a single soil sample was collected from the removal excavation stockpile (five samples total). All five samples were analyzed using Northwest Total Petroleum Hydrocarbon

(NWTPH) Hydrocarbon Identification (HCID) methodology. This analysis revealed no detectable gasoline, diesel, or heavy-oil range petroleum hydrocarbons in soils removed from this excavation (PNE 2002).

The 1,000-gallon UST was located on the south side of the Custom Care Cleaners tenant space, in the unenclosed area previously inset into the building (PNE 2002). Based on conversations with Mr. Ickert for this SI, it appears this UST removal excavation would have included the area where the Stoddard solvent discharge drum had been located, and both of these items would have been located beneath the present-day footprint of the building. After excavation and removal of the UST, five samples were collected from the excavation, including two from beneath both ends of the tank; two from stained soil on the northern and southern excavation sidewalls; and one from beneath a "leaking" sewer line that transected the east side of the removal excavation. Two additional samples were collected from the excavation stockpile. Soil staining was observed around the tank fill tube, along the top of the tank, and at the northern excavation sidewall (PNE 2002).

Following excavation, one soil stockpile sample was submitted for NWTPH-HCID analysis, which identified diesel and heavy-oil range petroleum hydrocarbons in the sample. Based on this result, all of the samples from the southern excavation and soil stockpile were analyzed for diesel and heavy-oil range petroleum using NWTPH-Diesel extended (Dx) methodology. In addition, both stockpile samples and the one sample collected from beneath the leaking sewer pipe were analyzed for VOCs by EPA Test Method 8260 (PNE 2002).

Analysis of these samples revealed the presence of diesel range petroleum in the samples collected from the northern excavation sidewall and the eastern margin of the excavation (beneath the sewer line). Both stockpile samples contained heavy-oil range petroleum. VOC analysis detected ten compounds above the analytical method reporting limits (MRL): n-butylbenzene, sec-butylbenzene, tert-butylbenzene, ethylbenzene, isopropylbenzene, p-isopropylbenzene, n-isopropylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and xylene. These analytes were below Ecology's Model Toxics Control Act Method A (MTCA A) cleanup levels. While no chlorinated VOCs were detected above the MRL, the accompanying laboratory report indicated PCE and cis-1,2-dichloroethene were present in the three samples, though the concentrations were below the MRL. Ground water was not encountered during UST decommissioning and/or excavation (PNE 2002).

In the context of the historic discharge of Stoddard solvent to the subsurface environment at the property, analysis of the southern stockpile sample by NWTPH-HCID analysis would have detected Stoddard solvent, if present, as a gasoline range hydrocarbon. As referenced above, the one soil sample from the southern UST stockpile did not have gasoline range petroleum hydrocarbon detections. In addition, VOC analysis of soil samples collected adjacent to the buried drum by Ecology in 1990 detected toluene, ethylbenzene, and xylene. While ethylbenzene and xylene were detected in the sample analyzed for VOCs at

the time of the southern UST removal, the concentrations were lower than what was detected in 1990.

2.6 START Site Visit

On May 30, 2014, a site visit of the Custom Care Cleaners site was conducted. During this time, photographs of site features were taken (Appendix B). Site visit attendees included:

- Derek Pulvino, E & E, Project Manager;
- Monica Tonel, EPA, Task Monitor;
- Greg Memovich, Member, Park Hill Shopping Center, LLC;
- Mary Thompson, Member, Park Hill Shopping Center, LLC;
- James G. D. Peale; Maul, Foster, Alongi, Consultant to Park Hill Shopping Center, LLC; and
- Mark Ickert, Owner, Custom Care Cleaners.

During the site visit, attendees discussed the known history of the Custom Care Cleaners tenant space and potential areas of concern, and investigated and observed development and construction features on and proximal to the business. At the time of the visit, the property was operating as a commercial dry cleaning business, and was easily accessed on foot. Property features are discussed further below:

- Custom Care Cleaners occupies the western tenant space within the Park Hill Shopping Center building (Appendix B, Photos 1 through 6). The retail entrance, sales counter, and alterations area are located in the northeast corner of the Custom Care Cleaners tenant space (Figure 2-6; Photo 7). The remainder of the business area is occupied by sorting, pressing, and cleaning equipment.
- The dry cleaning equipment is located in the southwest corner of Custom Care Cleaners, and includes three "Petro-Miser" brand machines (Photo 10). As previously discussed, Custom Care Cleaners currently uses DF-2000 or Ecosolv, both non-chlorinated, petroleum-based "green" dry cleaning solvents. Dry cleaning solvents are reclaimed by an attached still and carbon canister system located on the south side of the dry cleaning equipment (Photo 11). Several patches were observed on the exterior building wall behind these machines (Photo 18). All other machines in this area were standard washing machines that use soap and water. Filter containers, dry cleaning solvent drums, and other related supplies were located to the east of the dry cleaning machines (Photo 12). A variety of spot-cleaners were stored on a shelf, located adjacent to these containers. According to Mr. Ickert, the previously used dry cleaning equipment had also been located in this area.

- Steam clothing presses are situated in the center of the Custom Care Cleaners building (Photo 8). Overhead steam lines were observed in this and other areas of the building, connecting to this equipment. Two water heaters and a boiler room with an outside access door were located on the southeast corner of Custom Care Cleaners (Photo 9).

- Exterior patching was observed on the southern and western concrete masonry unit (CMU) exterior walls of the building. According to Mr. Ickert, dryers had previously vented through these holes (Photo 16).

- The south-central portion of the Custom Care Cleaners space was used to store boxes of business-related supplies, such as clothes hangers, filters, and plastic bags. As previously discussed, Mr. Ickert reported that upon his occupancy of the building, building walls had been oriented differently, and a portion of this storage area had been outdoors. The former extent of the walls is identifiable within the building by the cut CMU blocks on the north and south walls, and on the outside of the building by the slightly altered orientation and finish of adjacent CMU blocks (Photos 13 through 17). This old construction feature is further documented in Assessor records, which include a circa-1991 plan-view building drawing that depicts this area outside of the building.

- Further, according to Mr. Ickert, the previously used Stoddard still and related equipment observed by Ecology had been located on the southern side of Custom Care Cleaners. A discharge pipe that had apparently been connected to the still ran through the wall to the buried drum located in the outdoor area, to which waste fluid had been discharged. As previously discussed, this was also the location where a 1,000-gallon heating-oil UST had been removed. According to Mr. Ickert, a plastic sewer cap set within the concrete approximately coincides with the previous location of the buried drum (Photo 15).

3 Migration/Exposure Pathways

This section describes the migration/exposure pathways and potential targets within the site's range of influence.

3.1 Ground Water Migration Pathway

The target distance limit (TDL) for the ground water migration pathway is a 4-mile radius that extends from the sources at the site. Figure 3-1 depicts the ground water 4-mile TDL.

3.1.1 Geologic Setting

Custom Care Cleaners is located in the Portland Basin Geologic area, which is surrounded by the Cascade Mountains to the east and the Coast Range to the west, with the Columbia River flowing through it, separating the states of Washington and Oregon (Korney 2000; Mundorff 1964). This low land basin consists of broad, relatively flat flood plain terraces rising approximately 800 feet above sea level from the Columbia River to the foothills northeast of Vancouver (Mundorff 1964). At depth, Miocene age and older volcanic lava flows formed the Columbia River Basalt Group, which is overlain by sedimentary deposits estimated at up to 1,400 feet thick (Korney 2000).

The base of the sedimentary deposits is the Sandy River Mudstone, consisting of 400 to 600 feet of siltstone and claystone. The Troutdale Formation is of Miocene to Pliocene age, and it unconformably overlies the Sandy River Mudstone with fluvial deposits up to 1,000 feet thick. The Troutdale Formation is composed of coarse-grained sand and gravel deposits separated by layers of fine-grained silt, siltstone, and sand, all of which are a result of the erosion of basalt deposits from the Cascade Range and Cascade Plateau volcanic events (Korney 2000). This formation dips towards the center of the basin, with a change of elevation over 500 feet from the eastern perimeter to the center (Korney 2000). The Troutdale Formation includes an Upper and Lower Troutdale member. The Upper Troutdale member has been weathered in areas, but is estimated to have been 300 to 400 feet thick originally. The Lower Troutdale member's maximum thickness is estimated to be 660 feet (Mundorff 1964). Overlying the Troutdale Formation are Quaternary alluvial silt, sand, and gravel deposits (Korney 2000).

The average total annual precipitation for the area is 39.62 inches, as measured from Vancouver, Washington (WRCC 2013).

3.1.2 Aquifer System

There are three primary aquifer systems within the sedimentary deposits of the Portland Basin: an upper sedimentary aquifer system, a deeper/lower sedimentary aquifer system, and older rocks. The upper aquifer system is separated by the Columbia River. On the Washington state side of the basin, in the area between the mouth of the Columbia River Gorge and the confluence of the Columbia River and Willamette River, both the upper and lower aquifer systems are composed of multiple aquifers.

The upper sedimentary aquifer system, also known as the Undifferentiated Gravel aquifer, is separated by the Columbia River. The Undifferentiated Gravel aquifer system consists of up to 400 feet of material. In Washington, this aquifer includes the Sand and Gravel aquifer, Orchards aquifer, and Troutdale Gravel aquifer (Korney 2000). The Sand and Gravel aquifer and Orchards aquifer primarily consist of flood deposits of late Pleistocene age, varying from bouldery gravel to silt. These include flood plain and terrace deposits along major tributaries and glacial outwash in some areas. The top of the unit is land surface and is generally between 50 and 100 feet thick, although deposits range up to 400 feet thick in some areas. Wells completed in these deposits have maximum yields between 1,000 and 6,000 gallons per minute near Washougal, Camas, and Vancouver, Washington, and up to 10,000 gallons per minute north of Blue Lake in Oregon (Swanson et al. 1993). The Troutdale Gravel aquifer principally consists of sandy gravel, silty sand, sand, and clay. The altitude of the top of the unit ranges from about 700 feet above mean sea level in Camas, Washington, to minus 600 feet above mean sea level northwest of Gresham, Oregon. The maximum thickness of this unit is about 800 feet, and well yields are as large as 3,000 gallons per minute in some areas (Swanson et al. 1993).

In Washington, the deeper/lower sedimentary aquifer system includes two confining units and two aquifer units—the Troutdale Sandstone, and sand and gravel beds—within the Sandy River Mudstone geologic unit (Korney 2000). The upper confining unit consist of a grayish olive-green clay and silt with lenses of silt and fine- to medium-grained sand and generally is less than 200 feet thick. The upper confining unit separates the Troutdale Gravel aquifer from the Troutdale Sandstone aquifer. The lower confining unit is lithologically similar to the upper confining unit. The thickness of the lower unit ranges from about 200 feet in the southeastern part of the basin to about 800 feet toward the center of the basin (Swanson et al. 1993). The lower confining aquifer separates the Troutdale Sandstone aquifer from the Sands and Gravel aquifer.

The Troutdale Sandstone aquifer consists of coarse sandstone and conglomerate, with lenses and beds of fine- to medium-grained sand and silts. The altitude of the top of the aquifer is about 1,000 feet in the area east of the Sandy River and dips westward to about minus 400 feet near downtown Portland. The thickness of the aquifer ranges from 100 to 200 feet, but reaches about 400 feet in the southeastern part of the basin. Wells completed in this unit yield up to 2,500 gallons per minute (Swanson et al. 1993).

The older rock unit includes generally low permeability Miocene and older volcanic and marine sedimentary rock that underlies and bounds the basin-filling sediments. The altitude of the top of the unit ranges from land surface in the exposed areas to minus 1,600 feet above mean sea level beneath Vancouver, Washington (Swanson et al. 1993).

Hydraulic Conductivity

The four sedimentary aquifers in the basin have the highest median hydraulic conductivities. The Upper Sedimentary aquifer system has the highest median value of hydraulic conductivity (200 feet per day) and also the greatest variation in values (0.03 to 70,000 feet per day). It is the most permeable aquifer, as well as the most heterogeneous unit. The Troutdale Gravel aquifer, Troutdale Sandstone aquifer, and Sand and Gravel aquifer all have similar median values of about 7 to 16 feet per day. The Troutdale Sandstone and the Sand and Gravel aquifers have low variation in hydraulic conductivity relative to some of the other units. The Troutdale Gravel aquifer, however, has values of hydraulic conductivity ranging over six orders of magnitude (McFarland and Morgan 1996).

Sole Source Aquifer Designation

The EPA established a sole source aquifer program authorized under Section 1424(e) of the Safe Drinking Water Act of 1974 (Public Law 93-523, 42 U.S.C. 300 et seq.). A sole source aquifer is defined as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. In addition, the aquifer can have no alternative drinking water source(s) that could physically, legally, and economically supply all those who depend upon it for drinking water. The Troutdale Sole Source Aquifer System, E6-14710, was established on October 5, 2006. This aquifer system provides approximately 99 percent of the drinking water available to the people living in an area that encompasses approximately half of Clark County, including Vancouver, Washington. The aquifer system is up to 2,000 feet thick in some areas (EPA 2006).

3.1.3 Drinking Water Targets

Approximately 170,132 people use ground water for drinking water purposes within the 4-mile TDL. A combination of domestic wells and Group A and Group B community water systems are present. Washington Administrative Code (WAC) defines the group designation for community water systems. The definitions, as provided by the Washington State Department of Health (DOH), are:

- **Group A:** (WAC 246-290). Group A water systems are those with 15 or more service connections, regardless of the number of people; or systems serving an average of 25 or more people per day for 60 or more days within a calendar year, regardless of the number of service connections. Group A water systems do not include systems serving fewer than 15 single-family residences, regardless of the number of people.

- **Group B:** (WAC 246-291). Group B water systems serve less than 15 residential connections and less than 25 people per day; or 25 or more people per day fewer than 60 days per year. Group B water systems are those public water systems that do not meet the definition of a Group A water system.

DOH maintains records of all active public water systems. Public water systems, regardless of group designation, indicate the total number of wells in the system, distribution capacity, number of connections, and total population served. A search of the DOH Sentry Internet database revealed the presence of 50 Group A community wells serving a total population of 167,786 people within the 4-mile TDL, and 27 Group B community wells serving a total population of 117 people within the 4-mile TDL (DOH 2012).

Clark Public Utilities maintains 39 wells (30 permanent, five emergency, and four seasonal) as part of its Group A community system, which serves a total population of 82,123 people. The emergency and seasonal wells are regularly maintained to augment the drinking water supply. The water is blended prior to distribution, and no single well provides more than 40 percent of the total capacity. Based on this information, it is estimated that each well serves approximately 2,106 people (i.e., 82,123 people / 39 wells). Of the 39 wells in this system, six permanent and one seasonal fall within the 4-mile TDL. Well locations are provided as township, range, and section. Therefore, the population assigned to each well and distance ring was apportioned based on the percentage of each well's section location that fell within a given distance. Apportionment of the population by distance ring is provided in Table 3-1.

Golden West Mobile Manor maintains three permanent wells as part of its Group A community system, which serves a total population of 300 people. All three of the wells are located within the 3- to 4-mile distance ring.

The City of Vancouver maintains a system of 40 permanent wells as part of its Group A community system, which serves a total population of 188,307 people. The water is blended prior to distribution, and no single well provides more than 40 percent of the total capacity. Based on this information, it is estimated that each well serves approximately 4,708 people (i.e., 188,307 people / 40 wells). All 40 of the wells are located within the 4-mile TDL. Well locations are provided as township, range, and section. Therefore, the population assigned to each well and distance ring was apportioned based on the percentage of each well's section location that fell within a given distance. Apportionment of the population by distance ring is provided in Table 3-1.

Domestic well logs are maintained by Ecology. A search of the internet database revealed the presence of 309 domestic wells within the 4-mile TDL (Ecology 2012). The number of people served by each well is not known; therefore, the average number of persons per household for Clark County, Washington (2.65) was utilized to determine well populations (USCB 2012). Based on this information, it is estimated that approximately 819 people are served by domestic

ground water wells (i.e., 309 wells x 2.65 people per well). The number of persons served by ground water by distance ring is presented in Table 3-1.

Well logs were noted during the search of Ecology's well log database (Ecology 2012). Based on the primarily residential and light industrial land uses within the 4-mile TDL, it is not assumed that ground water is used for the irrigation of 5 or more acres of commercial food crops or commercial forage crops, watering of commercial livestock, as an ingredient in commercial food preparation, as a supply for commercial aquaculture, or as a supply for a major or designated water recreation area.

The site is not located within a wellhead protection area; however, wellhead protection areas are present within the 4-mile TDL (DOH 2012).

3.2 Surface Water Migration Pathway

The surface water migration pathway TDL begins at the probable point of entry of surface water runoff from the site to a surface water body and extends downstream for 15 miles.

Storm water runoff at the site flows over the pavement into catch basins which flow through a sewer system to a publicly owned treatment plant. The water is not discharged to any surface water body. Based on this information, the surface water migration pathway is not evaluated as part of this SI.

3.3 Soil Exposure Pathway

The soil exposure pathway is evaluated based on the threat to residents and nearby populations from soil contamination within the first 2 feet of the surface.

The site is partially paved with asphalt. The site is not fenced, nor is it used for any recreational purposes. Additionally, while soil contamination has been encountered on the property, remediation work has included the excavation and offsite treatment of impacted soil, with the remedial excavations covered with asphalt or concrete. Based on this information, the soil exposure pathway is not evaluated as part of this SI.

3.4 Air Migration Pathway

The air migration pathway is evaluated based on the threat to individuals, nearby populations, resources, and sensitive environments from a release or potential release of a hazardous substance to the atmosphere.

While soil contamination has been encountered on the property, remediation work has included the excavation and offsite treatment of impacted soil, with the remedial excavations covered with asphalt or concrete. Based on this information, the air migration pathway is not evaluated as part of this SI.

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4 Summary and Conclusions

Custom Care Cleaners is a dry cleaning facility that has been in operation since at least 1987. The facility has used at least three types of cleaning solutions, including Stoddard solvent, PCE, and two brands of hydrocarbon based "green" dry-cleaning solvents (DF-2000 and EcoSolv). Previous inspections have documented the improper disposal of Stoddard solvent through a perforated buried drum, resulting in soil contamination. While subsurface impacts by PCE have also been documented at and proximal to Custom Care Cleaners, those impacts were investigated as part of the Vancouver Water Station-4 NPL site. A review of existing records for the Vancouver Water Station-4 site indicates that Custom Care Cleaners was not considered a likely source of PCE contamination to the Vancouver Water Station-4 site.

Given the above, Stoddard solvent was the primary contaminant of concern for this SI. While the buried drum had reportedly been removed and the area backfilled, no subsurface environmental characterization data or documentation is available directly documenting such removal activities. That said, a UST was subsequently removed from the vicinity of the buried drum. Based on the limited soil sampling data pertinent to Stoddard Solvent generated during UST removal, Stoddard solvent impacts (if any) that may remain in this area appear to be of relatively small scale, and Stoddard solvent-related impacts have not been encountered in proximal drinking water wells. Additionally, chlorinated compounds, including PCE, were not detected above method detection limits in the UST excavation. Based on these findings, no further action under CERCLA is recommended at the Custom Care Cleaners site.

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5 References

ATSDR (Agency for Toxic Substances and Disease Registry), June 1995, Toxicological Profile for Stoddard Solvent.

DOH (Washington State Department of Health), 2012, Office of Drinking Water, water system internet search, https://fortress.wa.gov/doh/eh/portal/odw/si/FindWaterSystem.aspx, Accessed on November 28, 2012.

Ecology (Washington State Department of Ecology), 2012, well log internet search, http://apps.ecy.wa.gov/welllog/textsearch.asp Accessed on November 30, 2012.

———, January 24, 1990, Letter from Bob Carrell to Lee Bagley regarding Custom Care Cleaners Samples 90037722 and 90037723

———, Not Dated, *Inspection Report – Hazardous Waste*, completed by Lee Bagley and Igor Vern.

———,June 10, 1987, Notification of Dangerous Waste Activities for Griffee's Cleaners.

EPA (United States Environmental Protection Agency), July 2006, *Final Support Document for Sole Source Aquifer Designation of the Troutdale Aquifer System*: EPA 910-R-06-006.

_____, September 1, 1999a, Superfund Record of Decision, Vancouver Water Station #4 Contamination Site, Vancouver, WA; EPA 541-R99-056

_____, May 1999b, Final Remedial Investigation and Feasibility Study for Vancouver Water Station 4, Vancouver, WA; ARCS Contract No 68-W9-0054.

_____, March 1992, Tetrachloroethylene Concentrations from Soil Gas Surveys, Vancouver Well Field, Vancouver, WA; Sampling Conducted by EPA Environmental Response Team, Work Order 3347-31-01-4568

Ickert, Mark, June 17, 2014, owner of Custom Care Cleaners, Vancouver Washington, telephone conversation regarding current business practices and follow-up from previous work with Derek Pulvino, Ecology and Environment, Inc., Seattle, Washington.

———, June 12, 2013, owner of Custom Care Cleaners, Vancouver, Washington, personal communication regarding current business practices and follow-up from previous work with Renee Nordeen, Ecology and Environment, Inc., Seattle, Washington.

Korney, John S., and Terry T. Fisk, August 2000, *Hydraulic Continuity of the Portland Basin Deep Aquifer System*, prepared by GeoEngineers, Inc., published in Environmental and Engineering Geoscience, Volume VI, Number 3, pp. 279-292.

Lane County (Lane County Assessor), December 23, 2004, Real Estate Excise Tax Affidavit, Park Hill Shopping Center, Property Identification Number 037909-804.0.

———, Not Dated, Assessor property assessment and field folio for Park Hill Shopping Center, Property Identification Number 37909804.

McFarland, William D. and David S. Morgan, 1996, *Description of the Ground-Water Flow System in the Portland Basin, Oregon and Washington*, United States Geological Survey Water-Supply Paper 2470-A

Mundorff, M.J., 1964, *Geology and Ground-Water Resources of Clark County, Washington, With a Description of a Major Alluvial Aquifer Along the Columbia River*, Geological Survey Water-Supply Paper 1600, prepared in cooperation with the State of Washington Department of Conservation, Division of Water Resources and the United States Bureau of Reclamation, by the United States Department of the Interior, Geological Survey.

Phillips, Terry, October 29, 2013, Property Manager for Park Hill Shopping Center, Vancouver, Washington, telephone conversation regarding use and ownership details for site with Derek Pulvino, Ecology and Environment, Inc., Seattle, Washington

PNE (Pacific Northern Environmental Corporation), February 19, 2002, Heating Oil Decommissioning, Park Hill Shopping Center, 6400 East Mill Plain Boulevard, Vancouver, WA; Submitted to Steve Memovich.

Stasch, Paul, May 14, 1987, Hazardous Waste Inspector, Washington State Department of Ecology, letter to Ron Griffee, owner Griffee's Cleaners, regarding dangerous waste regulations, compliance.

Swanson, R.D., McFarland, W.D., Gonthier, J.B., and Wilkison, J.M., 1993, *A Description of Hydrogeologic Units in the Portland basin, Oregon and Washington*, United States Geological Survey Water-Resource investigation Report 90-4196.

USCB (United States Census Bureau), 2012, Quick facts from the US Census Bureau for Clark County, Washington, http://quickfacts.census.gov/qfd/states/53000.html, Accessed on December 3, 2012.

WRCC (Western Regional Climate Center), 2013, *Period of Record Monthly Climate Summary, Vancouver4NNE, Washington (458773)*, http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?or4003. Accessed on February 20, 2013.

Zawistoski, Mark, January 10, 2013, memorandum to Linda Ader, Ecology and Environment, Inc., regarding GIS analysis for Custom Care Cleaners, Contract EP-S7-06-02, Technical Direction Document Number: 12-11-0009.

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Tables

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Table 3-1 Ground Water Drinking Water Population by Distance Ring

Distance Ring	Type of Well	Well Population	Total Population for Distance Ring
0 to ¼ mile	None	0	**0**
¼ to ½ mile	Type A Community	1,410	**1,410**
½ to 1 mile	Type A Community	26,362	**26,391**
	Domestic	29	
1 to 2 miles	Type A Community	34,694	**34,863**
	Type B Community	13	
	Domestic	156	
2 to 3 miles	Type A Community	71,505	**71,816**
	Type B Community	35	
	Domestic	276	
3 to 4 miles	Type A Community	35,225	**35,652**
	Type B Community	69	
	Domestic	358	
Total			**170,132**

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Figures

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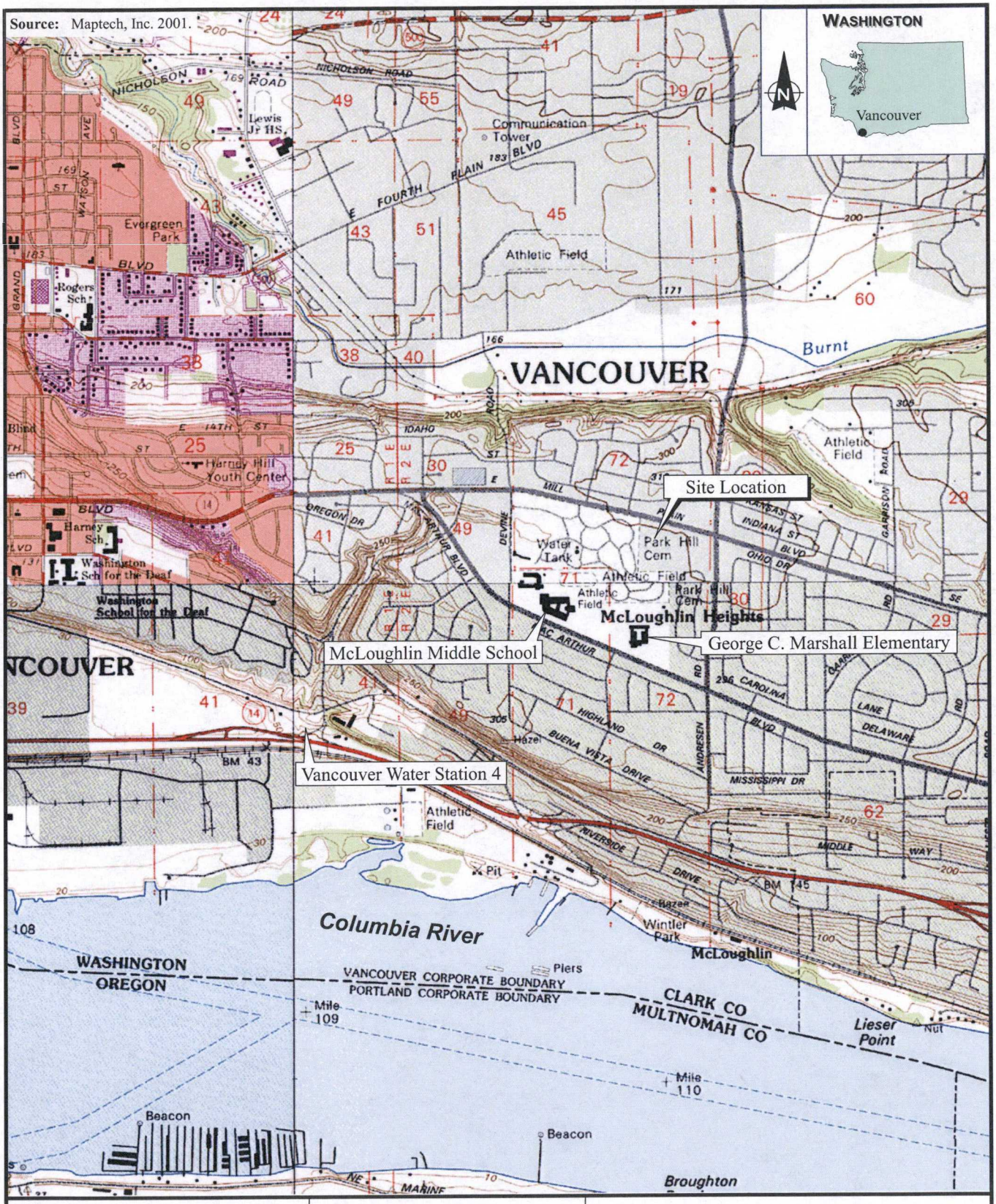


ecology and environment, inc. Global Specialists in the Environment Seattle, Washington	CUSTOM CARE CLEANERS Vancouver, Washington	Figure 2-1 SITE LOCATION MAP		
	0 1000 2000 Approximate Scale in Feet	Date: 6-9-14	Drawn by: AES	10:START-3\13090005\fig 2-1

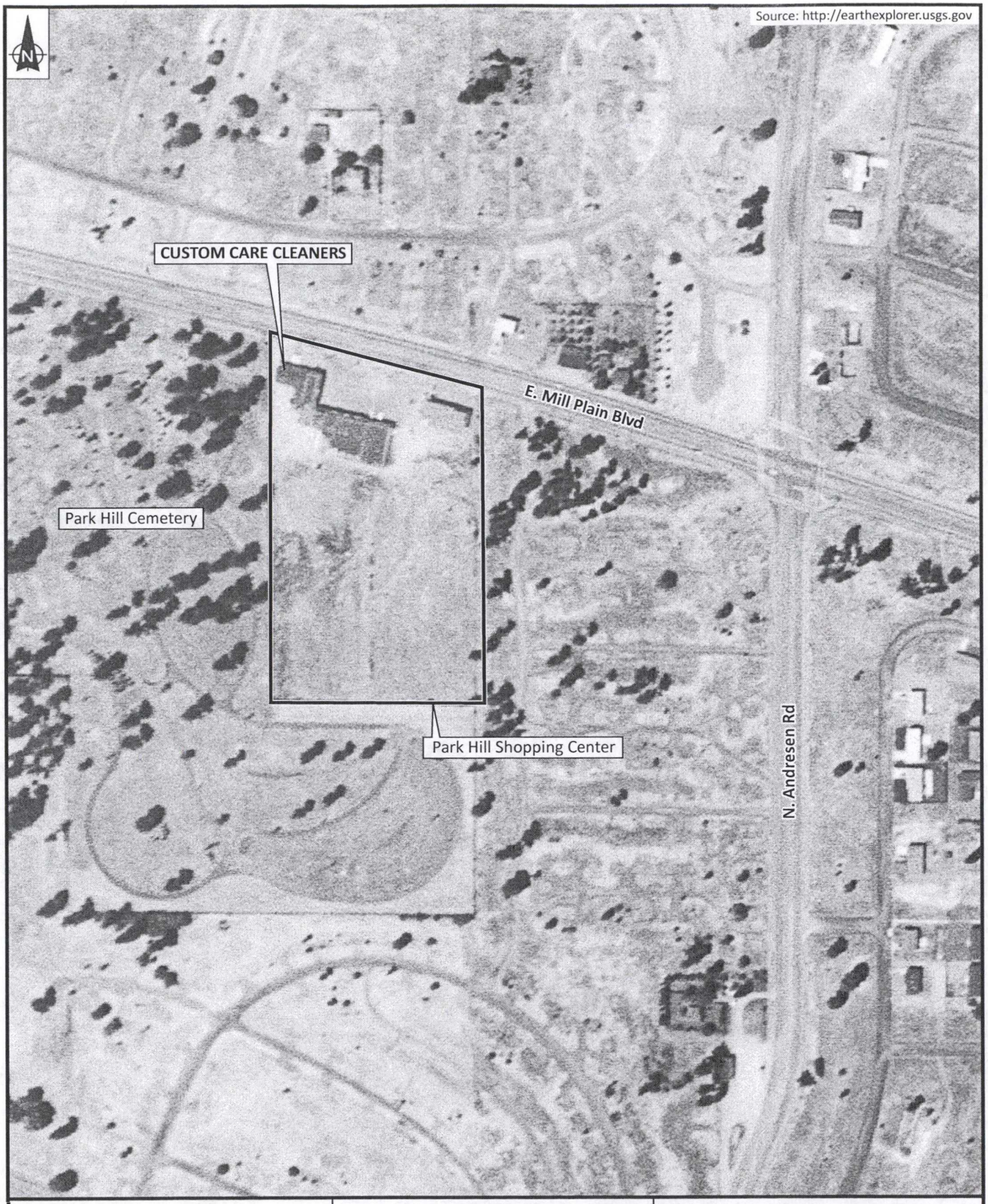
ecology and environment, inc. Global Environmental Specialists Seattle, Washington	CUSTOM CARE CLEANERS Vancouver, Washington	Figure 2-2 SITE VICINITY MAP		
	0 75 150 Approximate Scale in Feet	Date: 6/10/14	Drawn by: AES	10:START-IV\13090005\fig 2-2

ecology and environment, inc.
Global Environmental Specialists
Seattle, Washington

CUSTOM CARE CLEANERS
Vancouver, Washington

Figure 2-3
Historic Aerial Photograph – 1951

Date:	Drawn by:	
6/10/14	AES	10:START-IV\13090005\fig 2-3



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Global Environmental Specialists
Seattle, Washington

CUSTOM CARE CLEANERS
Vancouver, Washington

Figure 2-4
Historic Aerial Photograph – 1960

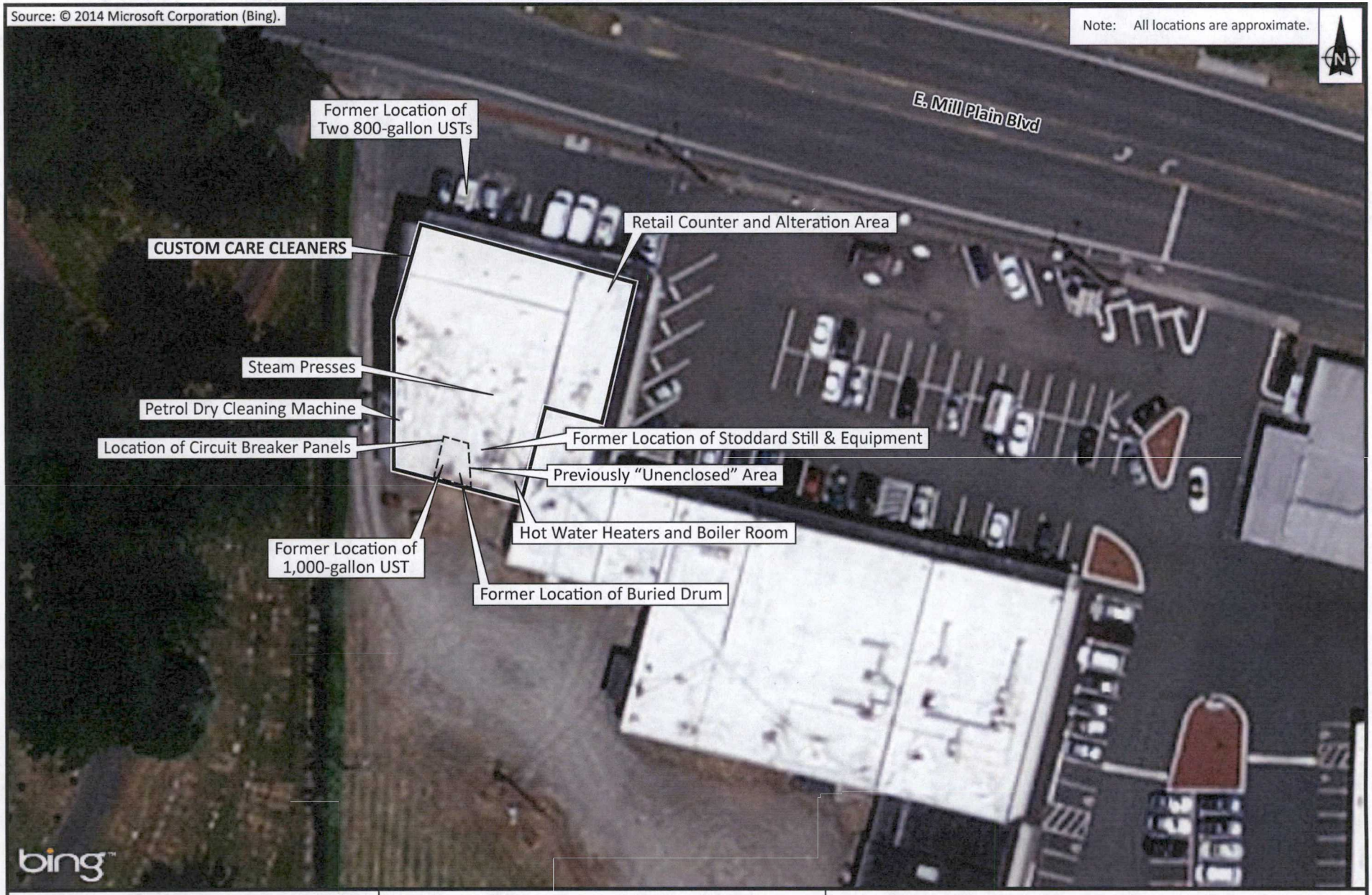
Date:	Drawn by:	
6/10/14	AES	10:START-IV\13090005\fig 2-4

ecology and environment, inc.
Global Environmental Specialists
Seattle, Washington

CUSTOM CARE CLEANERS
Vancouver, Washington

Figure 2-5
Historic Aerial Photograph – 1970

Date:	Drawn by:	
6/10/14	AES	10:START-IV\13090005\fig 2-5



ecology and environment, inc.
Global Environmental Specialists
Seattle, Washington

CUSTOM CARE CLEANERS
Vancouver, Washington

Figure 2-6
SITE PLAN

0 25 50
Approximate Scale in Feet

Date:	Drawn by:	
6/10/14	AES	10:START-IV\13090005\fig 2-6

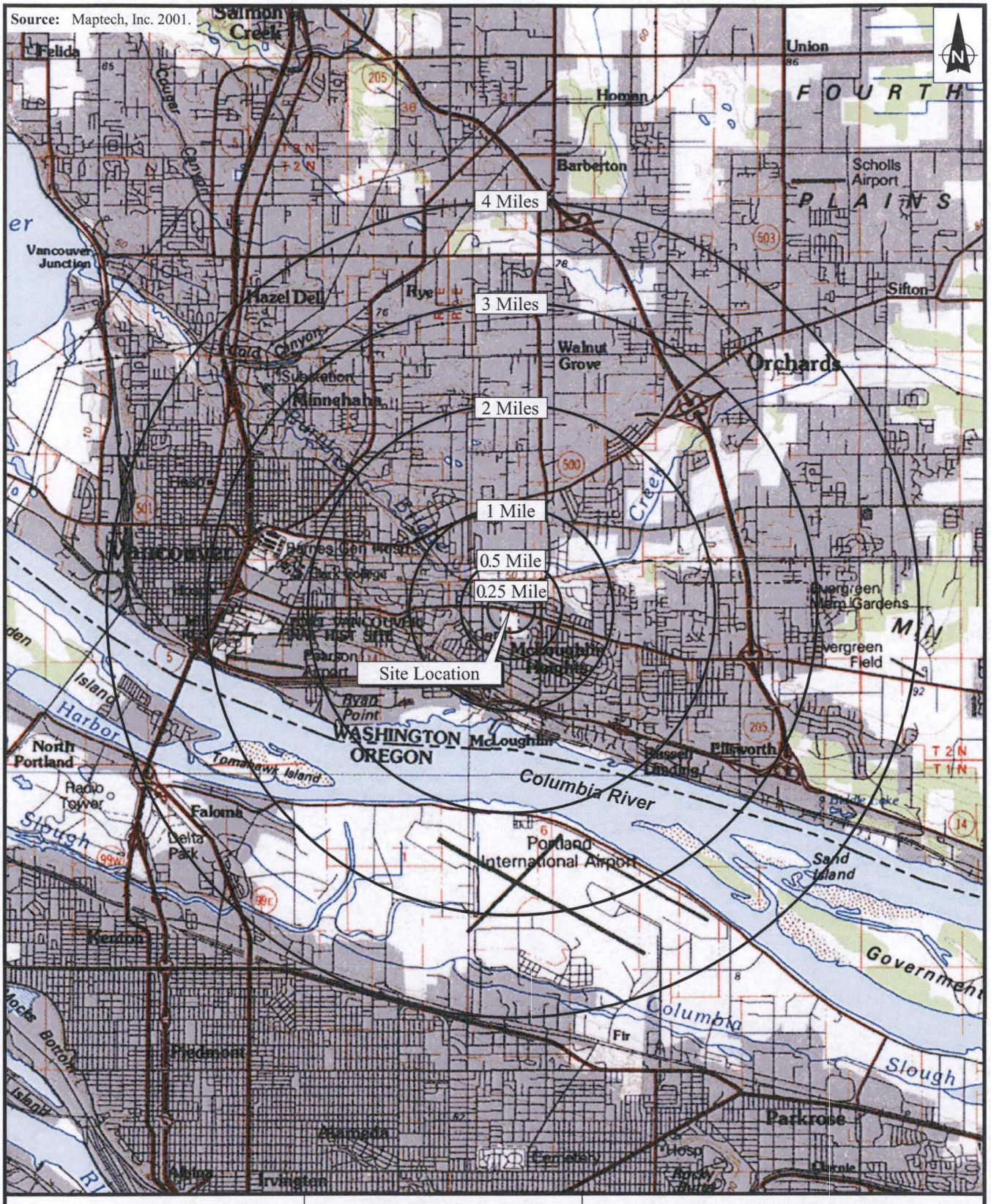
ecology and environment, inc.
Global Environmental Specialists
Seattle, Washington

CUSTOM CARE CLEANERS
Vancouver, Washington

Figure 2-7
SAMPLE LOCATION PLAN

0 150 300
Approximate Scale in Feet

Date:	Drawn by:	
6/26/14	AES	10:START-IV\13090005\fig 2-7



ecology and environment, inc. Global Specialists in the Environment Seattle, Washington	CUSTOM CARE CLEANERS Vancouver, Washington	Figure 3-1 4-MILE TDL MAP		
	0 .5 1 Approximate Scale in Miles	Date: 6-10-14	Drawn by: AES	10:START-IV\13090005\fig 3-1

A UST Decommissioning Document

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CORPORATE OFFICE
1081 Columbia Blvd., Longview, WA 98632 • (360) 423-2245 • Fax (360) 423-2272 • Toll Free 1-800-533-2867 • www.pnecorp.com

February 19, 2002

Mr. Steve Memovich
3505 Northeast Royal Oaks Drive
Vancouver, Washington 98662

RE: **Heating Oil UST Decommissioning**
Park Hill Shopping Center
6400 East Mill Plain Boulevard
Vancouver, Washington 99661

Dear Mr. Memovich:

Pacific Northern Environmental Corp. (PNE Corp.) has prepared this letter report to document the permanent decommissioning of one 800-gallon and two 1,000-gallon heating oil underground storage tanks (USTs) located at the referenced facility (see Figure 1). These tasks were performed consistent with requirements specified in Chapter 173-360 of the Washington Administrative Codes, Divisions 385 and 390.

UST Decommissioning

Each heating oil UST was permanently decommissioned and removed on January 16, 2002, consistent with procedures contained in the American Petroleum Institute guidance document *Recommended Practice 1604.* Cowlitz Clean Sweep (CCS) of Longview, Washington triple-rinsed each UST using a pressure washer and vacuum truck prior to removal. CCS then transported the rinse water and residue removed from inside the UST to Oil Re-Refining of Portland, Oregon. The associated disposal receipts are attached in Appendix A.

South UST

One 1,000-gallon UST was removed from the subsurface near the south side of the current dry cleaner business. Soil staining was observed around the fill tube, along the top of the UST and near the north side wall of the excavation. Petroleum odors were also observed. Groundwater was not observed within the excavation.

The UST was inspected for signs of damage. There was corrosion of the UST surface, but no indication of holes, cracks or evidence of poor structural integrity. However the UST appeared to be stained by petroleum product. Photographs of the USTs subsequent to removal are presented in Appendix B.

PUGET SOUND OFFICE 4305 Lacey Blvd. SE, Suite 20 • Lacey, WA 98503 • Phone (360) 493-1960 • Fax (360) 493-1917
OREGON OFFICE 9420 NW St. Helens Rd. • Portland, OR 97231 • Phone (503) 247-3437 • Fax (503) 247-1002
CCB# 78140 PACIFNE022MH

North USTs

Two 800-gallon USTs were removed from the subsurface near the south side of the current dry cleaner business. The USTs were inspected for signs of damage. There was little corrosion of the UST's surfaces, and no indication of holes, cracks or evidence of poor structural integrity. No leaks, cracks or holes were observed in the fill tube or furnace supply lines. The soil in the bottom and in the side-walls of the excavation resulting from removal of the USTs was also inspected, as was the stockpile created by removal of the UST's overburden soil. No stained soils were observed. No hydrocarbon odors were observed. Groundwater was not observed within the excavation.

Each of the USTs discussed above was cut open on January 18, 2002. Each UST was then transported to Bob Partridge Metals Recycling of Portland, Oregon for recycling. A copy of the associated disposal receipt is attached in Appendix C.

Impacted Soil Removal

In an attempt to remove petroleum-impacted soil from the site, PNE Corp. excavated additional soil from the excavation created during the removal of the south UST. The soil was stockpiled on and covered with 6-mil polyethylene sheeting pending characterization. Approximately 47 cubic yards of potentially impacted soil was removed.

Soil Sample Collection

Soil sample collection and chain-of-custody procedures were performed consistent with protocol outlined in the Washington Department of Ecology (Ecology) guidance document *Guidance for Remediation of Petroleum Contaminated Soils*. Soil sample locations are presented in Figure 2.

South UST

Five soil samples were collected from the south UST excavation:

- soil samples (B2-011701 & B3-011701) from each end of the former UST location in native soil, approximately 6 inches below the bottom of the UST
- two soil samples (B1-011701 & B4-011701) from stained areas of the excavation side walls and;
- one soil sample (B5-011701) from soil located directly beneath a leaking sewer pipe that is located directly beneath the adjacent dry cleaning facility.

In addition, two soil samples (BS1-011701 & BS2-011701) were collected from the associated soil stockpile.

One soil sample (BS1-011701) was analyzed using northwest chemical analytical method NWTPH-HCID. Based upon the analytical laboratory report, each soil sample was analyzed for diesel and heavy oil using northwest chemical analytical method NWTPH-Dx. The soil samples collected from beneath the leaking sewer pipe and from the soil stockpile were also analyzed for volatile organics using U.S. EPA Method 8260.

Laboratory reports indicate elevated concentrations of diesel, heavy oil and volatile organics. However, these concentrations do not exceed respective Method A cleanup Levels for soil as outlined in the Ecology's Model Toxics Control Act 173-340 WAC. Soil sample analytical results are summarized in Table 1. A copy of the associated laboratory reports and chain-of-custody documentation is attached in Appendix D.

North USTs

Four soil samples (A1-011701 through A4-011701) were collected from the north UST excavation: one soil sample from each end of the former UST location in native soil, approximately 6 inches below the bottom of the UST. In addition, one soil sample (AS1-011701) was collected from the associated soil stockpile.

Each soil sample collected from the north excavation was analyzed using northwest chemical analytical method NWTPH-HCID. Laboratory reports indicate that neither gasoline, diesel nor heavy oil was detected at concentrations that exceed respective analytical method reporting limits. Soil sample analytical results are summarized in Table 1. A copy of the associated laboratory reports and chain-of-custody documentation is attached in Appendix D.

Excavation Backfill & Impacted Soil Disposal

South UST

Upon receipt and evaluation of soil sample laboratory analytical reports, the stockpiled soil associated with the south excavation (66.08 tons) was transported to TPS Technologies, Inc. of Portland, Oregon for treatment via thermal desorption. Copies of the associated manifests are attached in Appendix E. Treated soil from TPS Technologies, Inc. was back-hauled to the site and used as backfill material for the south UST excavation. A copy of the associated laboratory analyses for this soil is attached in Appendix F

North USTs

Upon receipt and evaluation of soil sample laboratory analytical reports, the stockpiled soil associated with the north excavation was placed back into the north excavation. Additional imported clean sand backfill material was used to complete backfill of the north excavation.

Summary and Conclusions

PNE Corp. decommissioned one 1,000-gallon and two 800-gallon heating oil USTs at the referenced facility on January 16, 2002. PNE Corp. transported 66.08 tons of petroleum-impacted soil off-site for treatment and disposal. UST excavations were back-filled with site soil and clean imported fill material.

Laboratory reports for soil samples collected from the bottoms of the south excavation indicate the presence of diesel-range petroleum, at a concentration below the applicable Washington Department of Ecology Method A cleanup Level. Also, groundwater was not encountered and no chlorinated compounds were detected. Therefore, no further action regarding soil contamination is required at this site.

Limitations

This work was performed by PNE Corp. in accordance with generally accepted professional practices related to the nature of the work accomplished in the same or similar localities, at the time that the services were performed, and in accordance with agreements and understanding with the client, which may not be disclosed in this document. This report and its contents are for the specific application to the referenced project and for the exclusive use of the client. No other warranty, expressed or implied, is made. Any reliance on this report, in whole or in part, by a third party is at the party's sole risk.

If you have any questions or require further information, please feel free to call.

Sincerely,

PACIFIC NORTHERN ENVIRONMENTAL CORP.

Joseph A. Sturza
Environmental Services Director

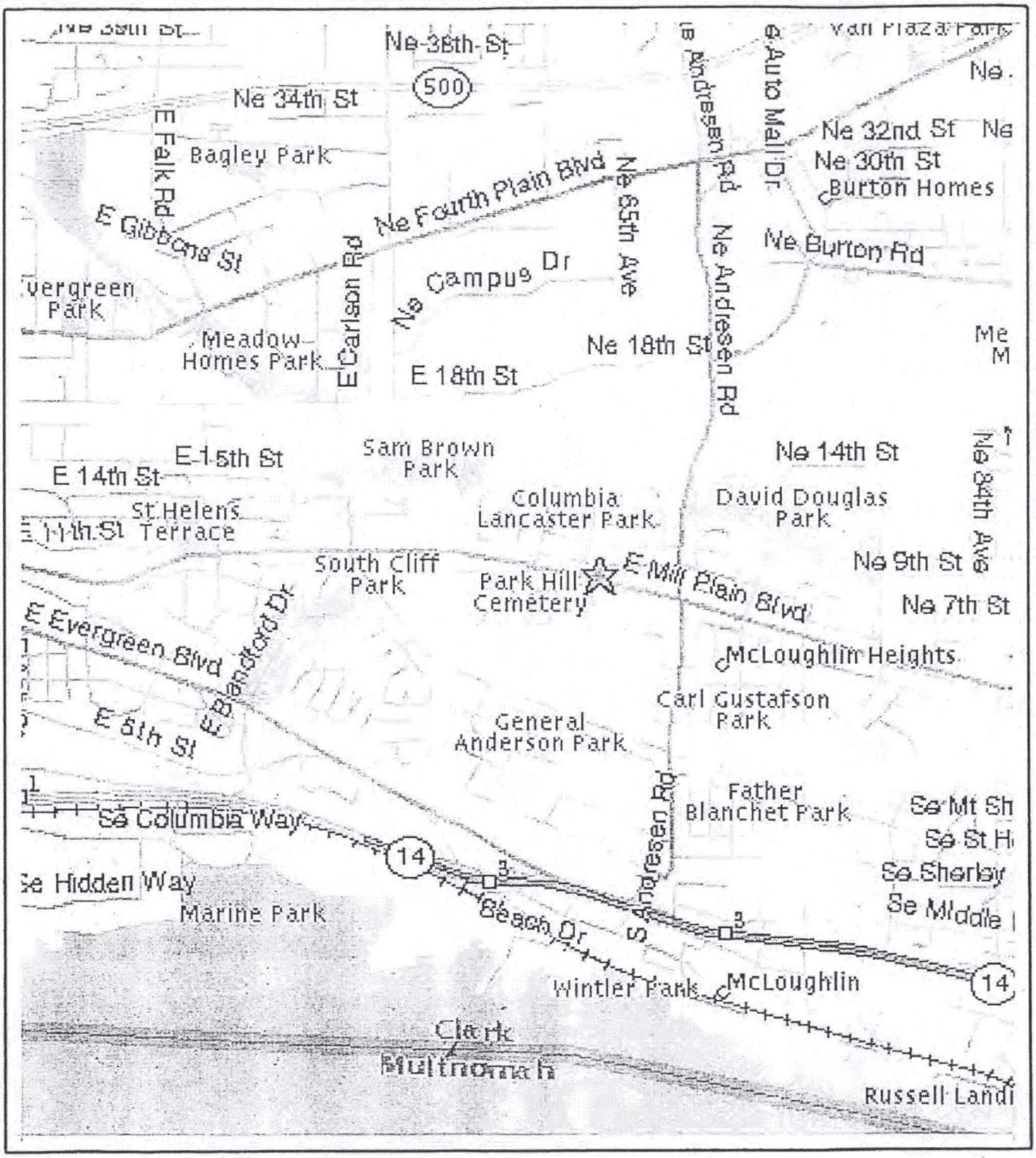
Att: Table 1
Figures 1 and 2
Appendices A through F

Cc/Att: Mr. Bob Miller, Miller & Sons Construction

Table 1
Soil Sample Summary
(mg/Kg)

Sample Name	Date Collected	Depth (ft bgs)	NWTPH-HCID			NWTPH-Dx		USEPA 8260[1]										
			Gasoline	Diesel	Heavy Oil	Diesel	Heavy Oil	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Ethylbenzene	Isopropylbenzene	p-Isopropyltoluene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes
A1-011702	1/17/02	8	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
A2-011702	1/17/02	8	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
A3-011702	1/17/02	8	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
A4-011702	1/17/02	8	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS1-011702	1/17/02	Stockpile	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B1-011702	1/17/02	3	NA	NA	NA	796	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B2-011702	1/17/02	6	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B3-011702	1/17/02	6	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B4-011702	1/17/02	4	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B5-011702	1/17/02	3	NA	NA	NA	1,220	ND	4.3	3.3	3.6	0.4	1.1	4.1	3.0	22.3	12.0	2.8
BS1-011702	1/17/02	Stockpile	ND	D	D	ND	1,820	3.1	2.7	ND	0.4	0.8	2.9	2.3	15.4	7.7	2.4
BS1-011702	1/17/02	Stockpile	NA	NA	NA	ND	1,420	1.5	1.1	0.9	ND	ND	1.2	1.0	5.9	2.9	0.8
		MRL:	20	50	100	25	100	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.3	0.3
		Ecology	100	2000	2000	2000	2000	NE	NE	NE	6	NE	NE	NE	NE	NE	9

Note: 1 - Only compounds with detections above analytical method reporting limits are summarized.
ft bgs - feet below ground surface
mg/Kg - Milligrams per kilogram
MRL - Analytical method reporting limit
Ecology - Washington Department of Ecology Method A Cleanup Levels (173-340-900 WAC)
D - Detected at or above the MRL
ND - Not Detected at or above the MRL
NA - Not analyzed
NE - Method A Cleanup Level Not Established
USEPA - U.S. Environmental Protection Agency



SITE LOCATION MAP

PACIFIC NORTHERN ENVIRONMENTAL

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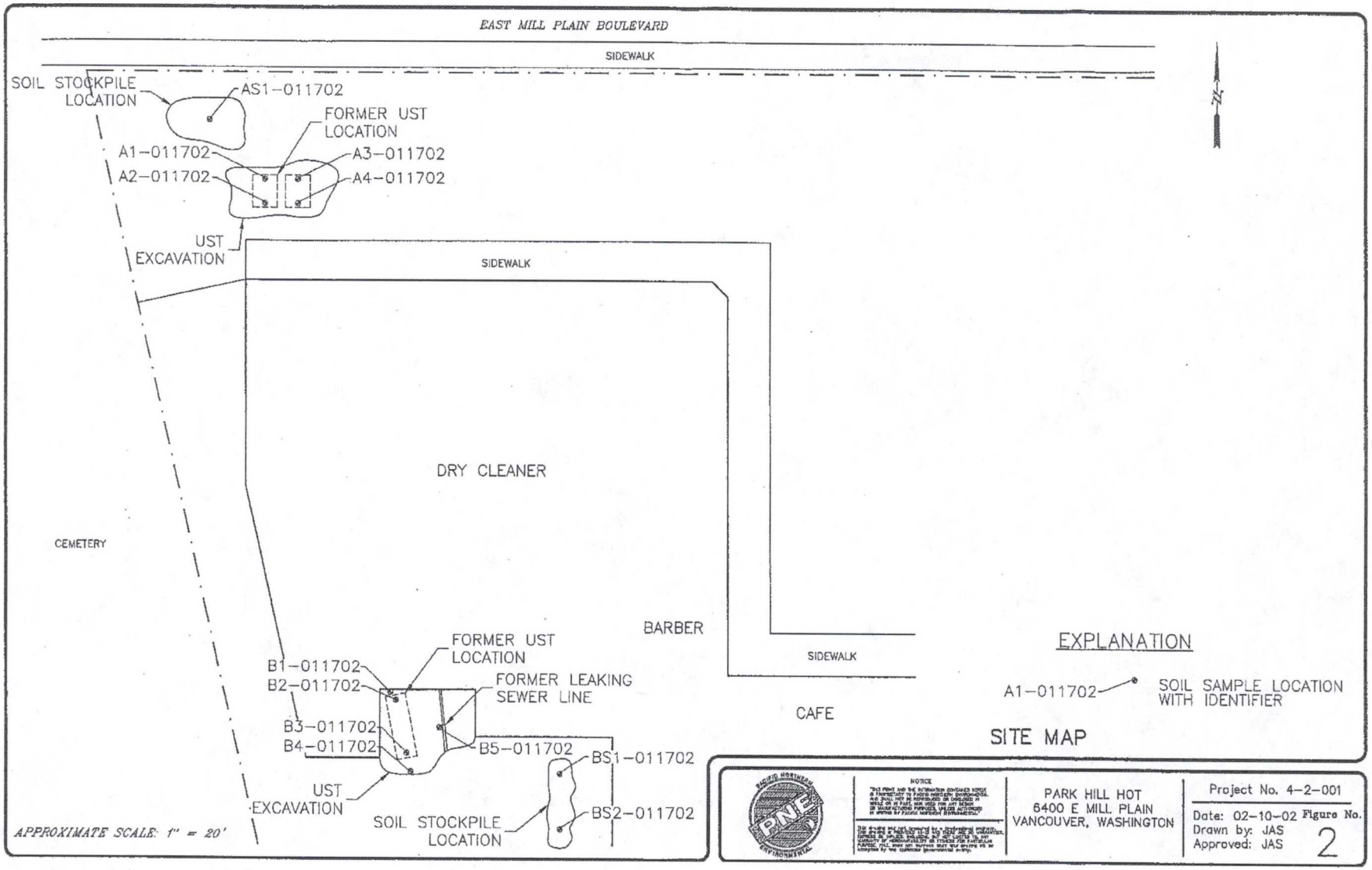
PARK HILL HOT
6400 E MILL PLAIN
VANCOUVER, WASHINGTON

Project No. 4-2-001

Date: 02-10-02 Figure No. 1
Drawn by: JAS
Approved: JAS

File: PARK HILL HOT DECOMMISSIONING, SITE LOCATION.DWG.DWG ~ Plotted: 2002 Feb 10 at 5:40:15 pm ~ XREFs: NO XREFS


EAST MILL PLAIN BOULEVARD
SIDEWALK
SOIL STOCKPILE LOCATION
AS1-011702
FORMER UST LOCATION
A1-011702
A2-011702
A3-011702
A4-011702
UST EXCAVATION
SIDEWALK
DRY CLEANER
CEMETERY
BARBER
SIDEWALK
CAFE
FORMER UST LOCATION
B1-011702
B2-011702
FORMER LEAKING SEWER LINE
B3-011702
B4-011702
B5-011702
BS1-011702
UST EXCAVATION
SOIL STOCKPILE LOCATION
BS2-011702
APPROXIMATE SCALE: 1" = 20'
EXPLANATION
A1-011702
SOIL SAMPLE LOCATION WITH IDENTIFIER
SITE MAP
NOTICE
PARK HILL HOT
6400 E MILL PLAIN
VANCOUVER, WASHINGTON
Project No. 4-2-001
Date: 02-10-02 Figure No.
Drawn by: JAS
Approved: JAS
2

APPENDIX A

UST Rinse Water and Residue Disposal Receipts

STATEMENT

Cowlitz Clean Sweep
55 International Way
Longview, WA 98632
(360) 423-6316
FAX (360) 423-3409
EPA ID# WAD988467197
COWLICS061R7
CC 47339
USDOT467272

Park Hill Center

DATE 1-15-02

STATEMENT 009014

PLEASE PAY LAST AMOUNT IN BALANCE COLUMN

4-2-001

Combination Bill of Lading and Freight Bill

Generator: 6319 Mill Plain Vancouver

Receiving Facility: FPT

CCS Operator: JW MS

Unit #: 55

Received by (TSD): John D. Oxford

Customer warrants that the waste petroleum products being transferred by the above collector do not contain any contaminant's including , without limitations, pesticides, chlorinated solvents at concentrations greater than 1000 PPM. PCB's at greater concentrations than 2 PPM (or PPM with Manifest), or any other material classified as hazardous waste by 40 CFR part 261, customer Subparts C and D (implementing the Federal Resource Conservation and Recovery Act or by any equivalent State hazardous waste or hazardous substance classification program. Should laboratory tests find this waste product not in compliance with 40 CFR Part 261, customer (generator) agrees to pay for all disposal costs incurred.

Signed X Dan Bahl Date

QUANTITY	DESCRIPTION	CHARGES	CREDITS	BALANCE
220	gals. emulsified fuel & water (triple rinse)			
	Combustible Liquid NA 1993			SUBTOTAL
	Flammable Liquid UN 1203			TAX
	OTHER			TOTAL

A FINANCIAL CHARGE OF 1 1/2% Per month may be applied to any Past Due amount. Past Due accounts may be placed on C.O.D. without notification. If outside collection action is necessary, purchaser shall pay all costs of collection including reasonable attorney's fees

Generator Name Park Hill Center Location 6217 E. Mill Plain Rd Vancouver

Generator Fills Out Waste/Material Profile (One completed profile per product)

Description: Used Automotive Oil ☐ DIY Used Oil ☐ Machine Lubricating Oil ☐ Machine Tool Cutting and/or Cooling Fluids (including used solutions) containing at least 1% petroleum ☐ Hydraulic Oil ☐ Brake Fluid ☐ Refrigeration Oil ☐ Fuel Filters ☐ Oil Filters ☐ Antifreeze ☐ Oil Used as a Non-Contact Heat Transfer Media ☐ Solvent ☐

Unused Fuels and Type: Description (where and how generated) emulsified fuel + W

PROFILE
JAN 1 8 2002
APPROVED

Water/Petroleum Mixtures: Type ____

Percent Water 70 % Actual Calculation ☐ Process Knowledge ☒ Clear Tube ☐ Kolor Kut ☐

Transformer Oil PCB under 2PPM ☐ PCBs under 50PPM ☐ Date tested ____ Tests attached ☐

Generator hereby certifies that no dilution of oil containing PCBs has occurred below any regulatory threshold :

Signed: ____

Oily Solids: Tank Sludge ☐ Sump Sludge ☐ Contaiminated Soil ☐ Spill Cleanup Material ☐

Other (Specify) : ____ Attach all pertinent documents

Solvent : Flash Point ____

Has generator mixed solvent with any hazardous waste? Yes ☐ No ☐ If yes, Stop Call Supervisor

For all wastes or materials, provide the following information: Field Data

Sniffer Test Passed ☐ Failed ☐ Date Tested ____ Clor-D-Tect Test Results Ø PPM Date Tested 1-15-01 PH 6

Is Material Mixed With Hazardous Waste? Yes ☐ No ☑ If yes, Stop call Supervisor

Corrosive? Yes ☐ No ☑ Reactive? Yes ☐ No ☑ Toxic? Yes ☐ No ☑ Listed? Yes ☐ No ☑ Flash Over 140°F Yes ☑ No ☐

List All Pertinent Information (Describe process of waste generation in detail) Attach all Documentation includig all MSDS sheets & test results; Material generated from pump out and triple rinse of 3 UGSTS (de-commission)

Name and Title of Person providing information: Mark Berndt Driver (CCS)

Facility E.P.A. REG # WAD988467197 (CCS) HW Generator Status: LQG ____ SQG ✓ CEG ____

Certification & Guarantee

As generator of the material described in this profile (or authorized representative of the generator), I hereby certify that the information contained in this document is accurate and complete. I further certify that this material has NOT been mixed with any contaminants including, without limitations, Pesticides and waste listed or identified as hazardous waste under RCRA, or if mixing has occurred, this material has been mixed with an ignitable-only hazardous waste in compliance with the used oil mixture rule, or C.E.G. exemption. In the event that the material described in this document is in fact hazardous waste, I hereby guarantee to pay all costs necessary for proper analysis, transportation, storage and disposal.

Signed Mark Berndt Title Driver (CCS) Date 1-15-02

Receiving Facility Data

Is Waste/Material Acceptable for Processing?: Yes ☒ No ☐ Explanation: CDT=Ø ppm / PH=6

Accepted ☒ Signed John D. Oxford Title P.O. Date 1-15-02

Rejected ☐ Reason /

Returned to Generator? Yes ☐ No ☒ Transported To: /

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** RECEIVING RECORD ** No. 2015712

RECEIVED BY: Oil Re-Refining Company EPA# WAD980986012 PLANT:PORTLAND
4150 N. Suttle Road Phone (503) 286-8352 EMPLOYEE:ACE
Portland, OR 97217 Fax (503) 286-5027 PAGE: 1

RECEIVED FROM: Cowlitz Clean Sweep Customer ID# 711
55 International Way Phone: 206-423-6316
DATE:01/15/2002 Longview,WA 98632 Driver: MARK

QTY.	UNIT	ITEM	MNF	%H2O	%SOLID	B/L#
1.	EACH	Clor-D-Tect Kit	N	70.%	0.%	0
	GEN:	PARK HILL CENTER				
		CDT=0 PPM. PH=6. JOB#4-2-001.				
TOTAL EAC		1.				
220.	GAL.	Emulsified Fuel	N	70.%	%	
	GEN:	PARK HILL CENTER				
		CDT=0 PPM. PH=6. JOB#4-2-001.				
TOTAL GAL		220.				

Customer warrants that the waste petroleum products being received do not contain any contaminants including, without limitation, pesticides, chlorinated solvents at total concentrations greater than 1000 PPM, PCB's greater than 50 PPM, or any other material classified as hazardous waste by 40 CFR part 261, subparts C and D (implementing the Federal Resource Conservation and Recovery Act) or by any State or local hazardous waste classification program. Should laboratory tests find this waste product not in compliance with 40 CFR part 261, Customer agrees to pay for all disposal costs incurred.

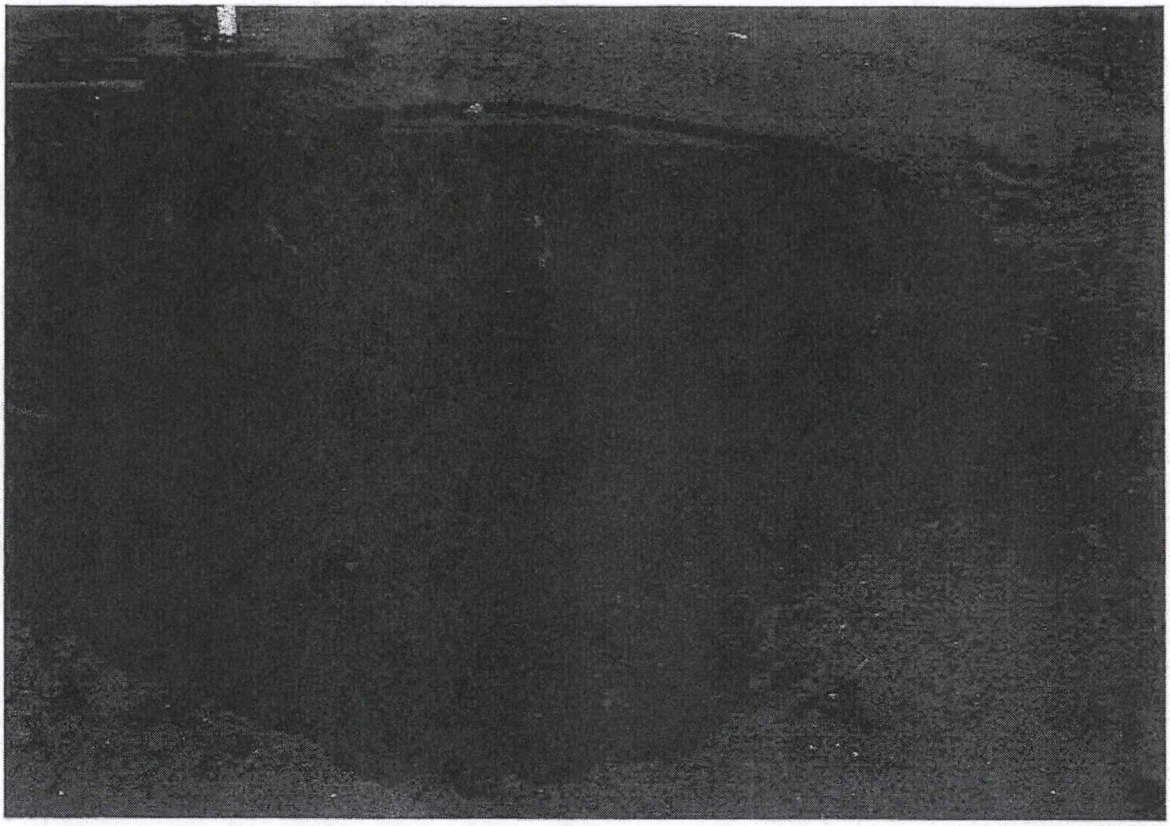
Signed X Mark Perrodt DATE:01/15/2002

APPENDIX B

Photographs

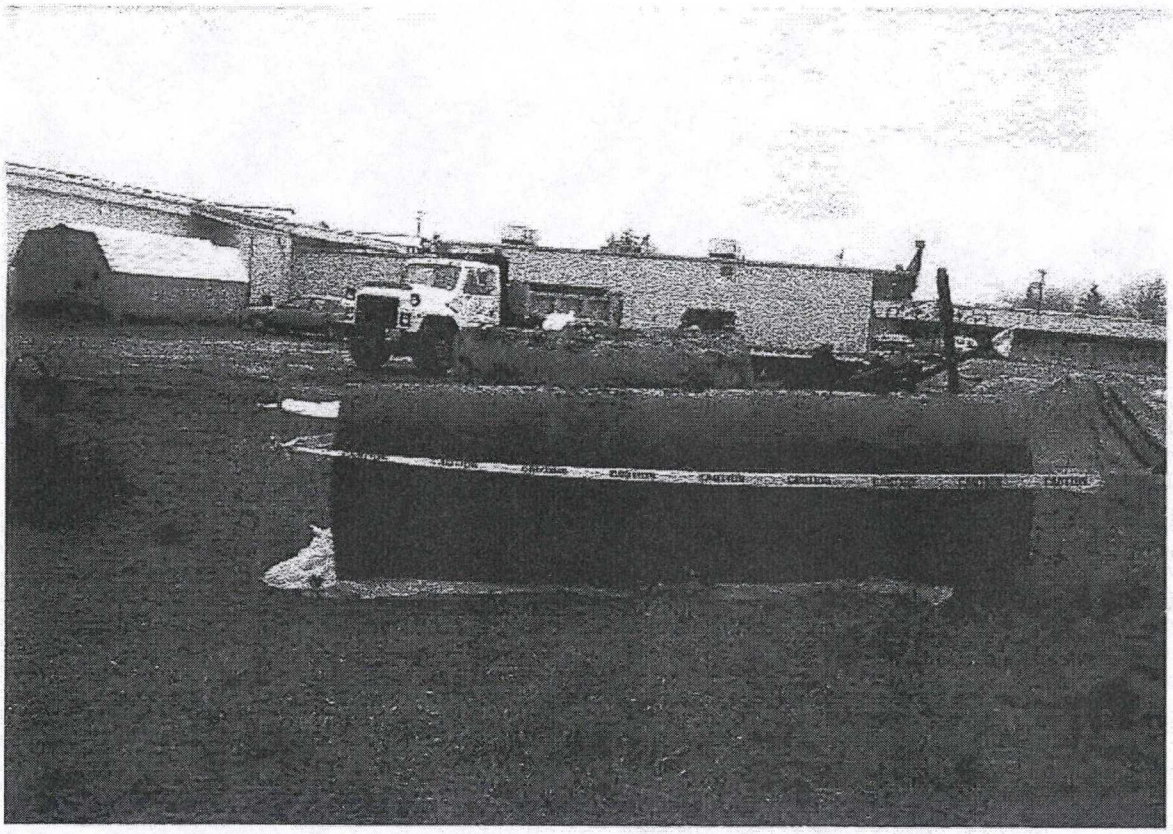
South UST Excavation

South Soil Stockpile

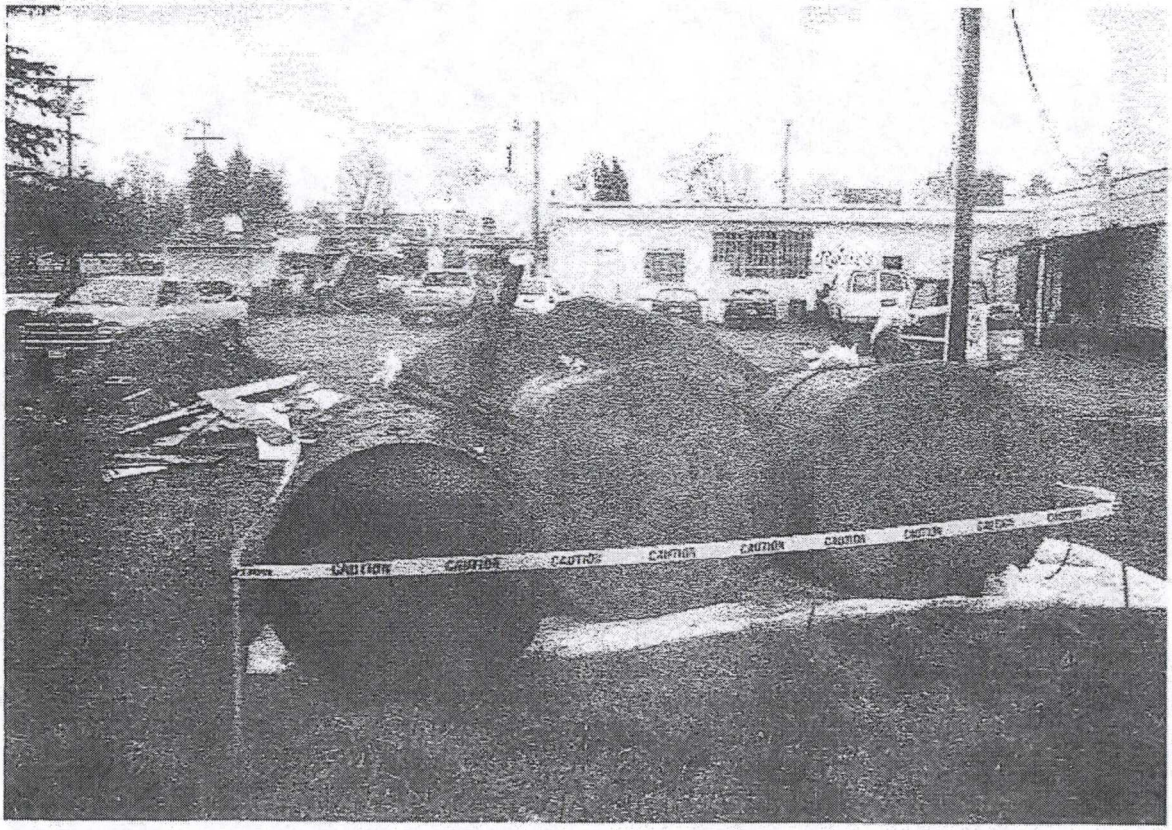


North UST Excavation

North Soil Stockpile



USTs



USTs

APPENDIX C

UST Disposal Receipt

Bob Partridge
Metals recycles
(503)254-6382

Invoice

Invoice #: 011802
Invoice Date: 01/20/02
Customer ID:988463197

Ship To:

Cowlitz Clean Sweep

55 International Way
Longview,WA 98632

Date	Your Order #	Our Order #	Sales Rep.	FOB	Ship Via	Terms	Tax ID
01/18/02	PO# 51686	8132	Bob			Net 10	

Quantity	Item	Units	Description	Discount %	Taxable	Unit Price	Total
3	Tanks	Each	Disposal old metal storage Tanks	0	N/A	$50.00	$150.00

Subtotal	$150.00
Tax	
Shipping	
Miscellaneous	
Balance Due	$150.00

REMITTANCE To Bob Partridge
ID # 541-56-4529
5314 N.E. 74th Ave
Portland,OR 97218

APPENDIX D

Laboratory Report
And
Chain-of-Custody Documentation

LABORATORY REPORT

Pacific Northern Environmental
Attn: Joe Sturza
1081 Columbia Boulevard
Longview WA 98632

PROJECT NAME/SITE:	Park Hill HOT	**REPORT NUMBER:**	40434
PROJECT NUMBER:	4-2-001	**REPORT DATE:**	1-18-02
EXTRACTION DATE:	1-17-02	**PAGE:**	1 of 1

NW TPH-HCID

Analyte: Petroleum Hydrocarbon Identification (Gasoline, Petroleum, Heavy Oil) for soil (dry weight basis)

Field ID	Lab ID	Identification			Surrogate Recovery (%)
		Gasoline	Diesel	Heavy Oil	
A1-011702	H4187	ND	ND	ND	79
A2-011702	H4188	ND	ND	ND	77
A3-011702	H4189	ND	ND	ND	87
A4-011702	H4190	ND	ND	ND	88
AS1-011702	H4191	ND	ND	ND	85
BS1-011702	H4197	ND	Detected	Detected	*
BLANK	-	ND	ND	ND	-
Reporting Limits (mg/Kg)	-	20	50	100	-

Surrogate is Chlorooctane
ND = Not Detected (below reporting limit or detection limit)

* Surrogate peak is not discernible on chromatogram from analyte peak.

NWTPH-Dx

Analyte: Total Petroleum Hydrocarbon Quantification for soil (dry weight basis)

Field ID	Lab ID	Diesel mg/Kg (ppm)	Heavy Oil mg/Kg (ppm)	Surrogate Recovery (%)
B1-011702	H4192	796†	ND	*
B2-011702	H4193	ND†	ND	88
B3-011702	H4194	ND†	ND	91
B4-011702	H4195	ND	ND	96
B5-011702	H4196	1,220†	ND	54
BS1-011702	H4197	ND†	1,820 ‡	70
BS2-011702	H4198	ND†	1,420 ‡	66
BLANK	-	ND	ND	-
Reporting Limit	-	25	100	-

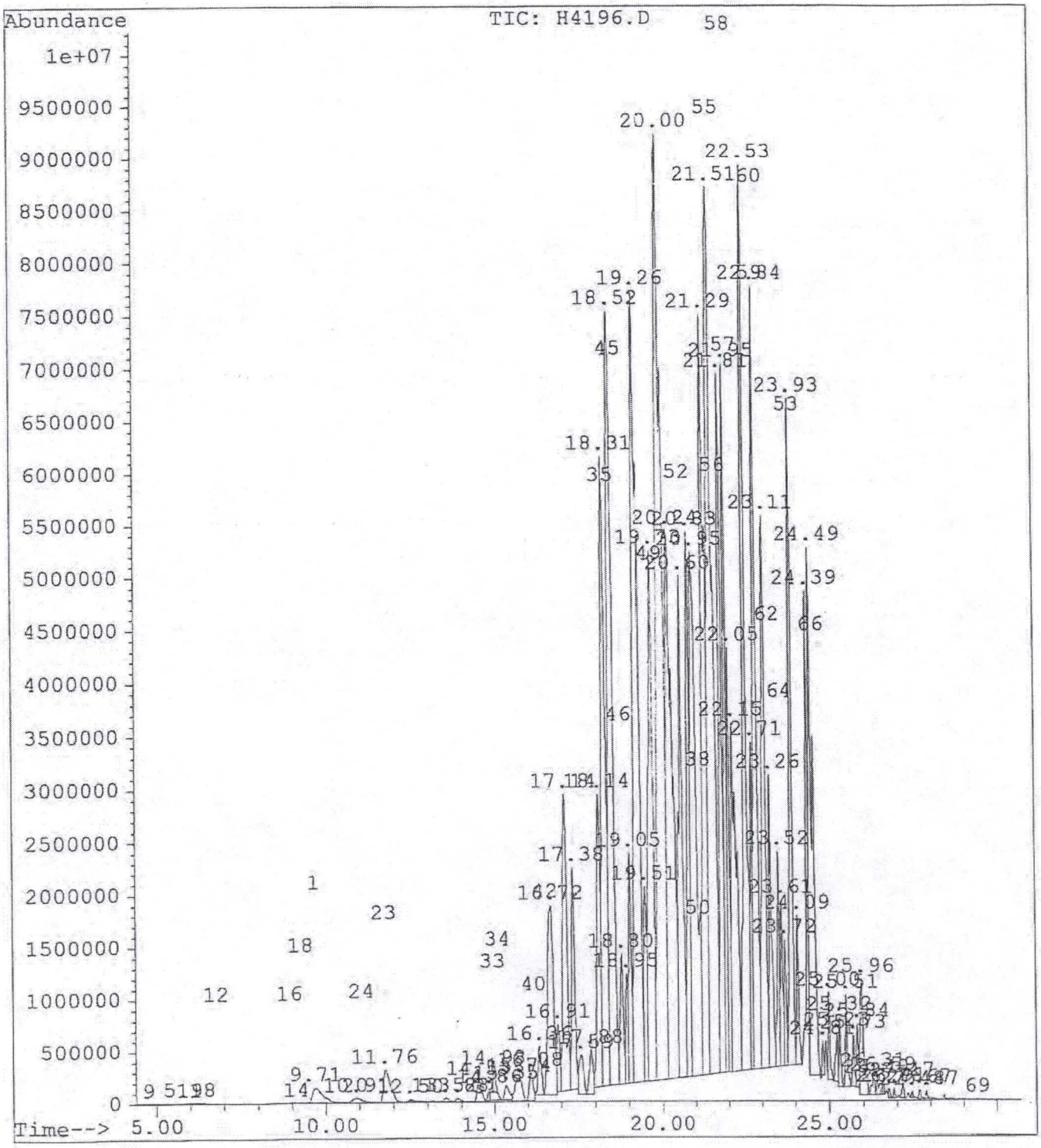
Surrogate is o-Terphenyl
ND = Not Detected (below reporting limit or detection limit)

‡ Oil range petroleum products, may be light oil.

† Gas range petroleum products also present. May be weathered gas or mineral spirits.

* Surrogate peak is not discernible on chromatogram from analyte peak.

File : C:\HPCHEM\1\DATA\VOA\JAN_2002\1-17-02\H4196.D
Operator : mark
Acquired : 17 Jan 102 8:C5 pm using AcqMethod VOA_NEW
Instrument : 5972 - In
Sample Name: soil 50ul H4196
Misc Info : w/ 10uL I.S.CS3-118A, 10uL Surr.CS3:118B
Vial Number: 3



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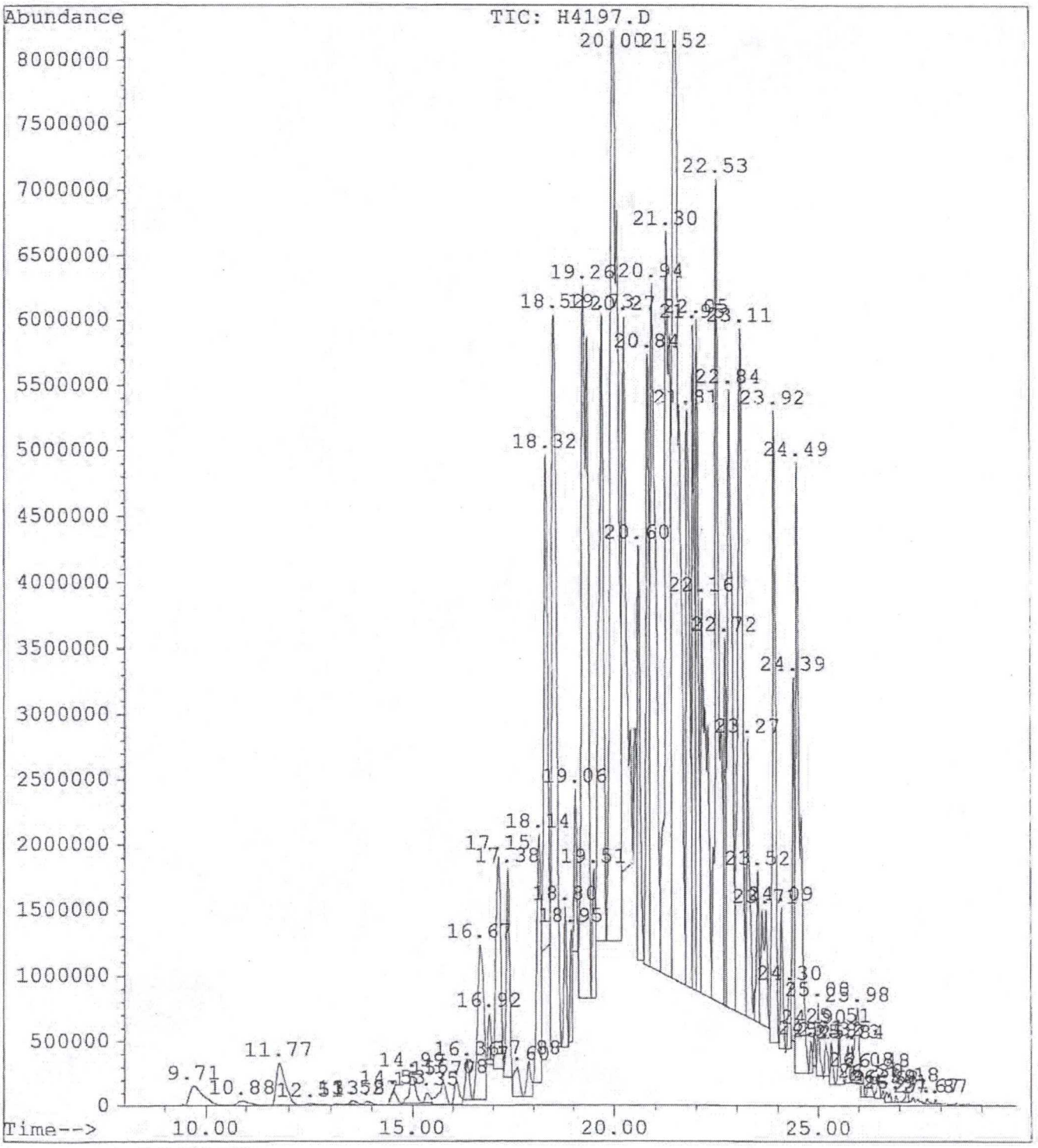
Operator : mark
Acquired : 17 Jan 102 8:53 pm using AcqMethod VOA_NEW
Instrument : 5972 - In
Sample Name: soil 50ul H4197
Misc Info : w/ 10uL I.S.CS3-118A, 10uL Surr.CS3:118B
Vial Number: 4



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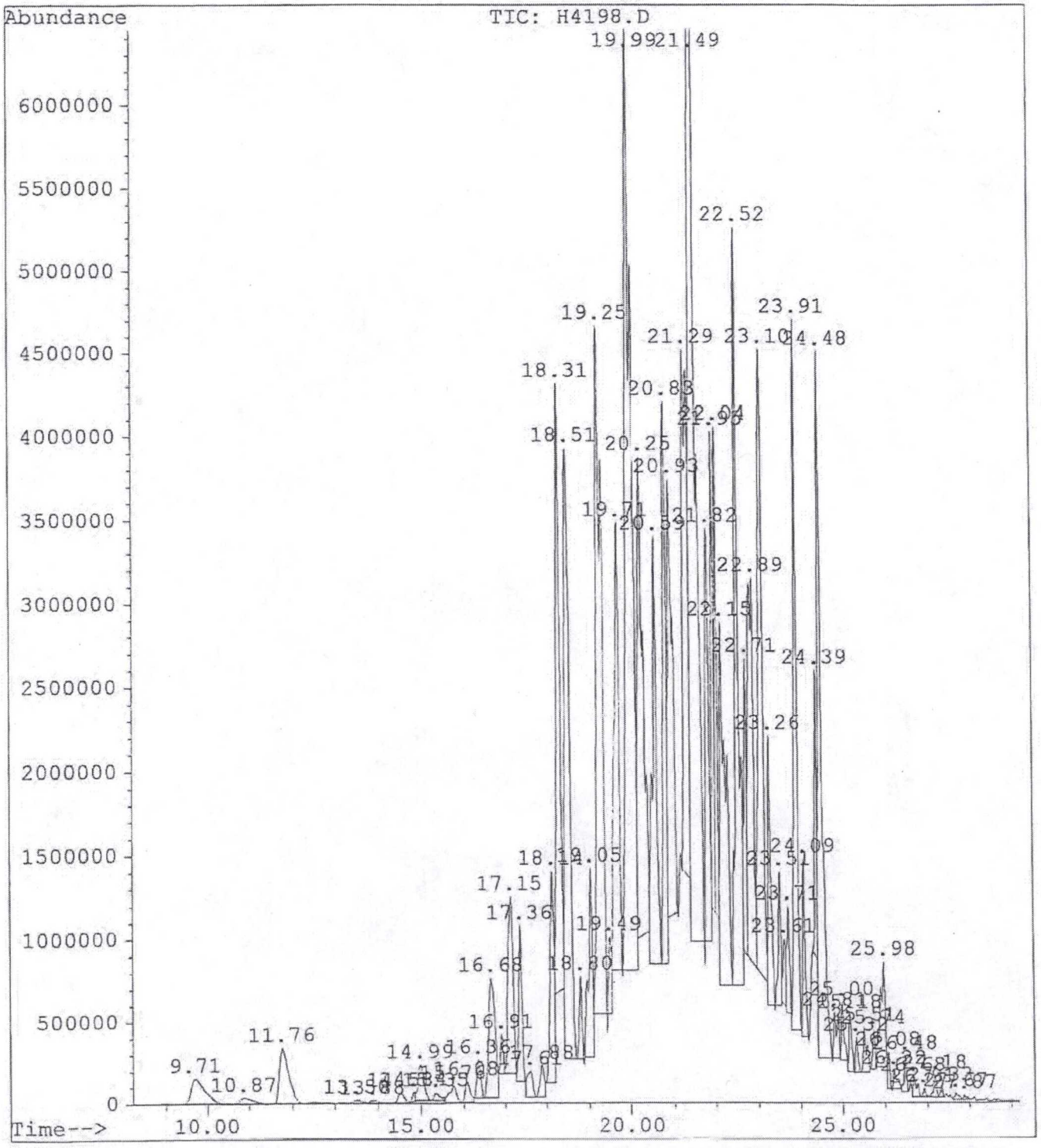
Operator : mark
Acquired : 17 Jan 102 9:42 pm using AcqMethod VOA_NEW
Instrument : 5972 - In
Sample Name: soil 50ul H4198
Misc Info : w/ 10uL I.S.CS3-118A, 10uL Surr.CS3:118B
Vial Number: 5



Wy'East Environmental Sciences, Inc.

EPA Method 8260
Analyte: Volatile Organics in Soil

Field ID: **BS1 - 011702**
Lab ID: H4197
Extraction date: 1-17-02

Site Name: **Park Hill HOT**
Site Number: 4-2-001
Report Number: 40434

CAS#	Compound	Sample (mg/Kg)	Blank	Detection Limit
67-64-1	Acetone	ND	ND	2.6
71-43-2	Benzene	ND	ND	0.3
108-86-1	Bromobenzene	ND	ND	0.3
74-97-5	Bromochloromethane	ND	ND	0.3
75-27-4	Bromodichloromethane	ND	ND	0.3
75-25-2	Bromoform	ND	ND	0.3
74-83-9	Bromomethane	ND	ND	0.5
78-93-3	2-Butanone (MEK)	ND	ND	1.4
104-51-8	n-Butylbenzene	3.1	ND	0.3
135-98-8	sec-Butylbenzene	2.7	ND	0.3
98-06-6	tert-Butylbenzene	ND	ND	0.3
56-23-5	Carbon tetrachloride	ND	ND	0.3
108-90-7	Chlorobenzene	ND	ND	0.3
75-00-3	Chloroethane	ND	ND	1.0
67-66-3	Chloroform	ND	ND	0.3
74-87-3	Chloromethane	ND	ND	0.3
95-49-8	2-Chlorotoluene	ND	ND	0.3
106-43-4	4-Chlorotoluene	ND	ND	0.3
128-48-1	Dibromochloromethane	ND	ND	0.3
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND	0.3
106-93-4	1,2-Dibromoethane	ND	ND	0.3
74-95-3	Dibromomethane	ND	ND	0.3
95-50-1	1,2-Dichlorobenzene	ND	ND	0.3
541-73-1	1,3-Dichlorobenzene	ND	ND	0.3
106-46-7	1,4-Dichlorobenzene	ND	ND	0.3
75-71-8	Dichlorodifluoromethane	ND	ND	0.7
75-34-3	1,1-Dichloroethane	ND	ND	0.3
107-06-2	1,2-Dichloroethane	ND	ND	0.3
75-35-4	1,1-Dichloroethylene	ND	ND	0.9
156-59-2	cis-1,2-Dichloroethylene	ND	ND	0.5
156-60-5	trans-1,2-Dichloroethylene	ND	ND	0.3
78-87-5	1,2-Dichloropropane	ND	ND	0.3
142-28-9	1,3-Dichloropropane	ND	ND	0.3
594-20-7	2,2-Dichloropropane	ND	ND	0.3

Lab ID:	H4197			
CAS#	Compound	Sample (mg/Kg)	Blank	Detection Limit
563-58-6	1,1-Dichloropropene	ND	ND	0.3
10061-01-5	cis-1,3-Dichloropropene	ND	ND	0.3
10061-02-6	trans-1,3-Dichloropropene	ND	ND	0.3
100-41-4	Ethylbenzene	0.4	ND	0.3
87-68-3	Hexachlorobutadiene	ND	ND	0.3
591-78-6	2-Hexanone	ND	ND	1.4
98-82-8	Isopropylbenzene	0.8	ND	0.3
99-87-6	p-Isopropyltoluene	2.9	ND	0.3
75-09-2	Methylene chloride	ND	5	2.1
1634-04-4	Methyl-t-butylether (MTBE)	ND	ND	0.9
108-10-1	4-Methyl-2-pentanone	ND	ND	1.4
91-20-3	Naphthalene	ND	ND	0.3
103-65-1	n-Propylbenzene	2.3	ND	0.5
100-42-5	Styrene	ND	ND	0.3
630-20-6	1,1,1,2-Tetrachloroethane	ND	ND	0.3
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND	0.3
127-18-4	Tetrachloroethylene	ND	ND	0.3
108-88-3	Toluene	ND	ND	0.3
87-61-6	1,2,3-Trichlorobenzene	ND	ND	0.5
120-82-1	1,2,4-Trichlorobenzene	ND	ND	0.5
71-55-6	1,1,1-Trichloroethane	ND	ND	0.3
79-00-5	1,1,2-Trichloroethane	ND	ND	0.3
79-01-6	Trichloroethylene	ND	ND	0.3
75-69-4	Trichlorofluoromethane	ND	ND	0.5
96-18-4	1,2,3-Trichloropropane	ND	ND	0.5
95-63-6	1,2,4-Trimethylbenzene	15.4	ND	0.3
108-67-8	1,3,5-Trimethylbenzene	7.7	ND	0.3
75-01-4	Vinyl chloride	ND	ND	0.7
1330-20-7	Total Xylenes	2.4	ND	0.3
	Surrogates:	Percent Recovery:		
460-00-4	4-Bromofluorobenzene	109		
107-06-2	1,2-Dichloroethane-d4	98		
108-88-3	Toluene-d8	100		

Wy'East Environmental Sciences, Inc.

EPA Method 8260
Analyte: Volatile Organics in Soil

Field ID: BS2-011702
Lab ID: H4198.D
Extraction date: 1-17-02

Site Name: **Park Hill Hot**
Site Number: 4-2-001
Report Number: 40434

CAS#	Compound	Sample (mg/Kg)	Blank	Detection Limit
67-64-1	Acetone	ND	ND	2.4
71-43-2	Benzene	ND	ND	0.3
108-86-1	Bromobenzene	ND	ND	0.3
74-97-5	Bromochloromethane	ND	ND	0.3
75-27-4	Bromodichloromethane	ND	ND	0.3
75-25-2	Bromoform	ND	ND	0.3
74-83-9	Bromomethane	ND	ND	0.5
78-93-3	2-Butanone (MEK)	ND	ND	1.3
104-51-8	n-Butylbenzene	1.5	ND	0.3
135-98-8	sec-Butylbenzene	1.1	ND	0.3
98-06-6	tert-Butylbenzene	0.9	ND	0.3
56-23-5	Carbon tetrachloride	ND	ND	0.3
108-90-7	Chlorobenzene	ND	ND	0.3
75-00-3	Chloroethane	ND	ND	1.0
67-66-3	Chloroform	ND	ND	0.3
74-87-3	Chloromethane	ND	ND	0.3
95-49-8	2-Chlorotoluene	ND	ND	0.3
106-43-4	4-Chlorotoluene	ND	ND	0.3
128-48-1	Dibromochloromethane	ND	ND	0.3
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND	0.3
106-93-4	1,2-Dibromoethane	ND	ND	0.3
74-95-3	Dibromomethane	ND	ND	0.3
95-50-1	1,2-Dichlorobenzene	ND	ND	0.3
541-73-1	1,3-Dichlorobenzene	ND	ND	0.3
106-46-7	1,4-Dichlorobenzene	ND	ND	0.3
75-71-8	Dichlorodifluoromethane	ND	ND	0.6
75-34-3	1,1-Dichloroethane	ND	ND	0.3
107-06-2	1,2-Dichloroethane	ND	ND	0.3
75-35-4	1,1-Dichloroethylene	ND	ND	0.8
156-59-2	cis-1,2-Dichloroethylene	ND	ND	0.5
156-60-5	trans-1,2-Dichloroethylene	ND	ND	0.3
78-87-5	1,2-Dichloropropane	ND	ND	0.3
142-28-9	1,3-Dichloropropane	ND	ND	0.3
594-20-7	2,2-Dichloropropane	ND	ND	0.3

Lab ID:	H4198.D			
CAS#	Compound	Sample (mg/Kg)	Blank	Detection Limit
563-58-6	1,1-Dichloropropene	ND	ND	0.3
10061-01-5	cis-1,3-Dichloropropene	ND	ND	0.3
10061-02-6	trans-1,3-Dichloropropene	ND	ND	0.3
100-41-4	Ethylbenzene	ND	ND	0.3
87-68-3	Hexachlorobutadiene	ND	ND	0.3
591-78-6	2-Hexanone	ND	ND	1.3
98-82-8	Isopropylbenzene	ND	ND	0.3
99-87-6	p-Isopropyltoluene	1.2	ND	0.3
75-09-2	Methylene chloride	ND	ND	1.9
1634-04-4	Methyl-t-butylether (MTBE)	ND	ND	0.8
108-10-1	4-Methyl-2-pentanone	ND	ND	1.3
91-20-3	Naphthalene	ND	ND	0.3
103-65-1	n-Propylbenzene	1.0	ND	0.5
100-42-5	Styrene	ND	ND	0.3
630-20-6	1,1,1,2-Tetrachloroethane	ND	ND	0.3
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND	0.3
127-18-4	Tetrachloroethylene	ND	ND	0.3
108-88-3	Toluene	ND	ND	0.3
87-61-6	1,2,3-Trichlorobenzene	ND	ND	0.5
120-82-1	1,2,4-Trichlorobenzene	ND	ND	0.5
71-55-6	1,1,1-Trichloroethane	ND	ND	0.3
79-00-5	1,1,2-Trichloroethane	ND	ND	0.3
79-01-6	Trichloroethylene	ND	ND	0.3
75-69-4	Trichlorofluoromethane	ND	ND	0.5
96-18-4	1,2,3-Trichloropropane	ND	ND	0.5
95-63-6	1,2,4-Trimethylbenzene	5.9	ND	0.3
108-67-8	1,3,5-Trimethylbenzene	2.9	ND	0.3
75-01-4	Vinyl chloride	ND	ND	0.6
1330-20-7	Total Xylenes	0.8	ND	0.3
	Surrogates:	Percent Recovery:		
460-00-4	4-Bromofluorobenzene	111		
107-06-2	1,2-Dichloroethane-d4	99		
108-88-3	Toluene-d8	100		

Area Percent Report

ata File Name : C:\HPCHEM\1\DATA\1-22-02\HALL0062.D
perator : mark
nstrument : ANALYZER1
ample Name :
un Time Bar Code:
cquired on : 20 Jan 02 09:12 AM
eport Created on: 23 Jan 02 11:07 PM

Page Number : 1
Vial Number : 62
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

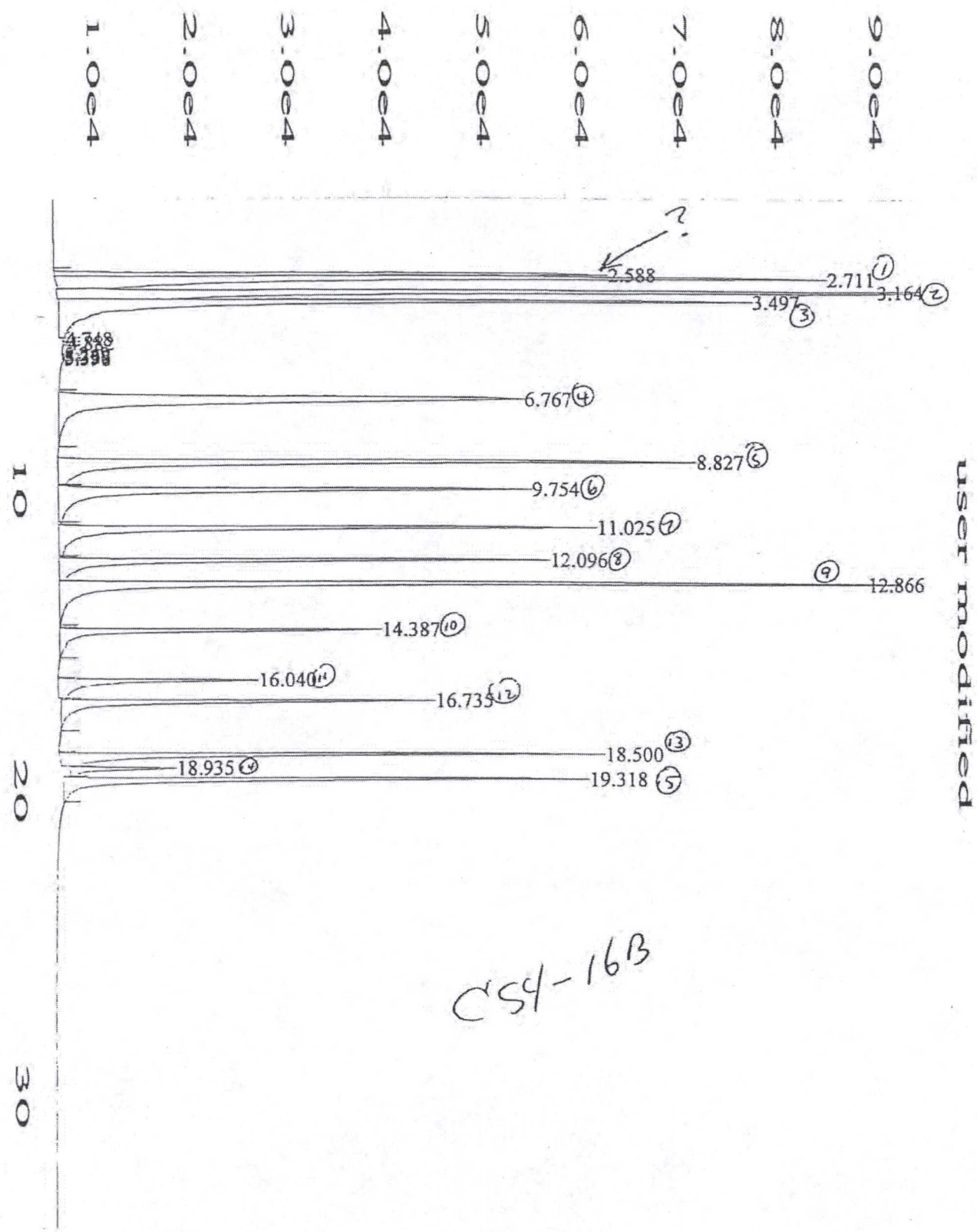
ig. 2 in C:\HPCHEM\1\DATA\1-22-02\HALL0062.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	~~2.588~~	~~344855~~	56731	BF	0.076	4.4499
2	2.711①	773815	79050	MM	0.163	9.9850
3	3.164②	901235	113727	FF	0.114	11.6292
4	3.497③	739548	70904	MM	0.174	9.5429
5	~~4.748~~	~~1340~~	348	FV	0.052	0.0173
6	4.882	1272	496	VV	0.038	0.0164
7	5.249	342	179	PV	0.038	0.0044
8	5.326	613	180	VV	0.048	0.0079
9	5.357	296	159	VV	0.031	0.0038
10	~~5.398~~	~~323~~	161	VF	0.031	0.0042
11	6.767④	751074	47676	MM	0.263	9.6916
12	8.827⑤	662612	65260	MM	0.169	8.5501
13	9.754⑥	496210	48556	MM	0.170	6.4029
14	11.025⑦	461684	55172	MM	0.139	5.9574
15	12.096⑧	376873	50229	MM	0.125	4.8630
16	12.866⑨	700285	86195	MM	0.135	9.0362
17	14.387⑩	239019	33070	MM	0.120	3.0842
18	16.040⑪	184483	20588	MM	0.149	2.3805
19	16.735⑫	284126	38407	MM	0.123	3.6663
20	18.500⑬	379544	55851	FF	0.098	4.8975
21	18.935⑭	65247	10918	MM	0.100	0.8419
22	19.318⑮	384955	53829	MM	0.119	4.9673

Total area = 7749752

User Modified

CS4-16B



Data File Name : C:\HPCHEM\1\DATA\1-22-02\HALL0062.D
Operator : mark
Instrument : ANALYZER1
Sample Name :
Run Time Bar Code:
Acquired on : 20 Jan 02 09:12 AM
Report Created on: 23 Jan 02 11:07 PM

Page Number : 1
Vial Number : 62
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

Area Percent Report

Data File Name : C:\HPCHEM\1\DATA\1-22-02\HALL0063.D
Operator : mark
Instrument : ANALYZER1
Sample Name :
Run Time Bar Code:
Acquired on : 20 Jan 02 10:01 AM
Report Created on: 23 Jan 02 11:10 PM

Page Number : 1
Vial Number : 63
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

Sig. 2 in C:\HPCHEM\1\DATA\1-22-02\HALL0063.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
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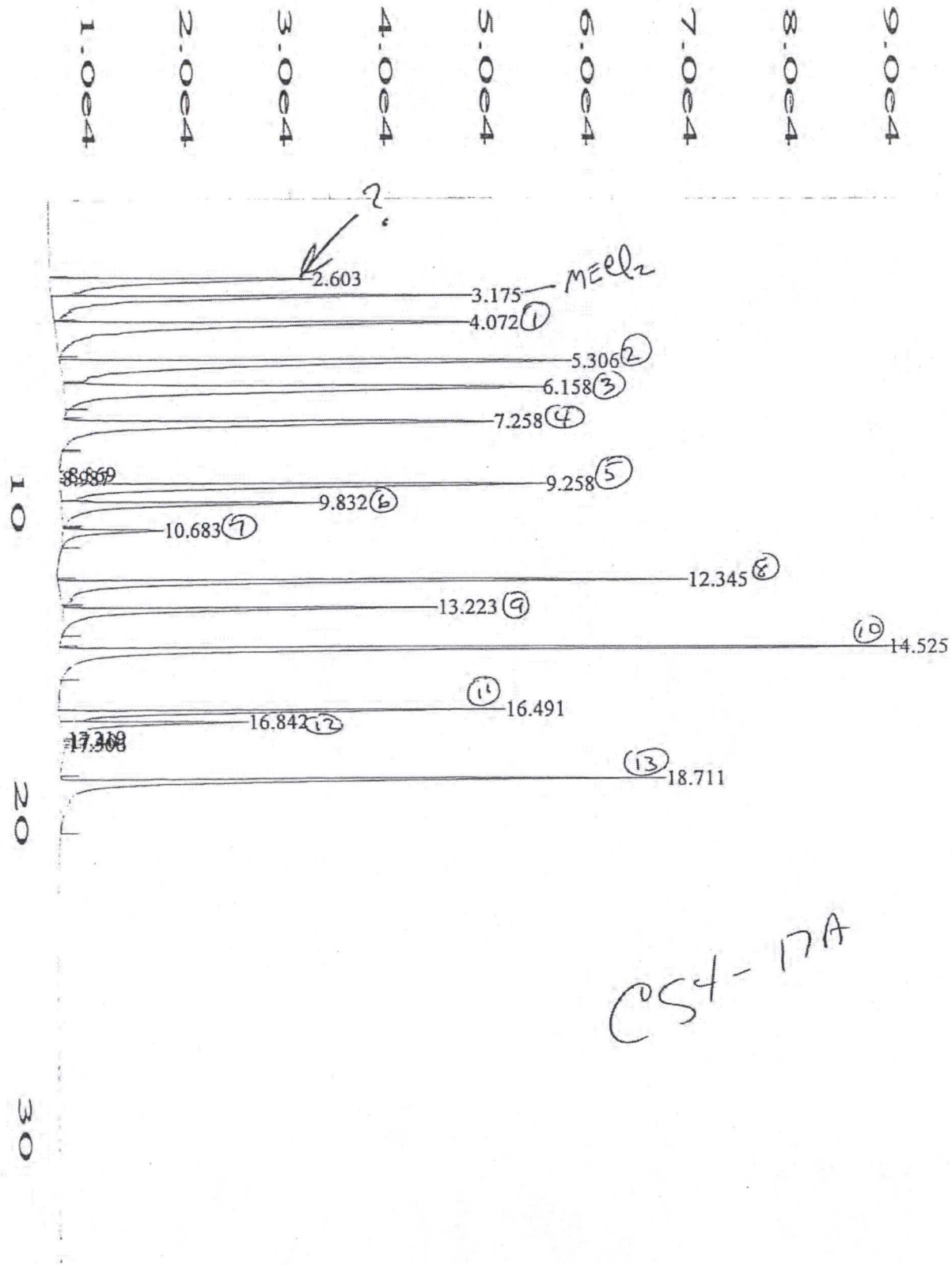
2	~~3.175~~	~~376102~~	42296	MM	0.148	5.9943
3	4.072	534142 1	41744	MM	0.213	8.5132
4	5.306	662911 2	51158	MM	0.216	10.5655
5	6.158	667491 3	47990	MM	0.232	10.6385
6	7.258	519427 4	43249	MM	0.200	8.2787
7	~~8.869~~	~~6979~~	850	FV	0.109	0.1112
8	~~8.987~~	~~745~~	223	VV	0.044	0.0119
9	9.258	486475 5	48655	VF	0.130	7.7535
10	9.832	250115 6	26020	MM	0.160	3.9863
11	10.683	86930 7	10190	MM	0.142	1.3855
12	12.345	491890 8	62906	MM	0.130	7.8398
13	13.223	304251 9	37657	MM	0.135	4.8492
14	14.525	657089 10	84654	MM	0.129	10.4727
15	16.491	291363 11	44806	FV	0.088	4.6438
16	16.842	159208 12	19058	VV	0.114	2.5375
17	17.319	~~1163~~	376	VV	0.042	0.0185
18	17.401	~~2982~~	554	VV	0.072	0.0475
19	17.506	~~915~~	264	VF	0.058	0.0146
20	18.711	445348 13	60446	MM	0.123	7.0980

Total area = 6274287

User Modified

CS4 - 17A



CS4-17A

Data File Name : C:\HPCHEM\1\DATA\1-22-02\HALL0063.D
Operator : mark
Instrument : ANALYZER1
Sample Name :
Run Time Bar Code:
Acquired on : 20 Jan 02 10:01 AM
Report Created on: 23 Jan 02 11:11 PM

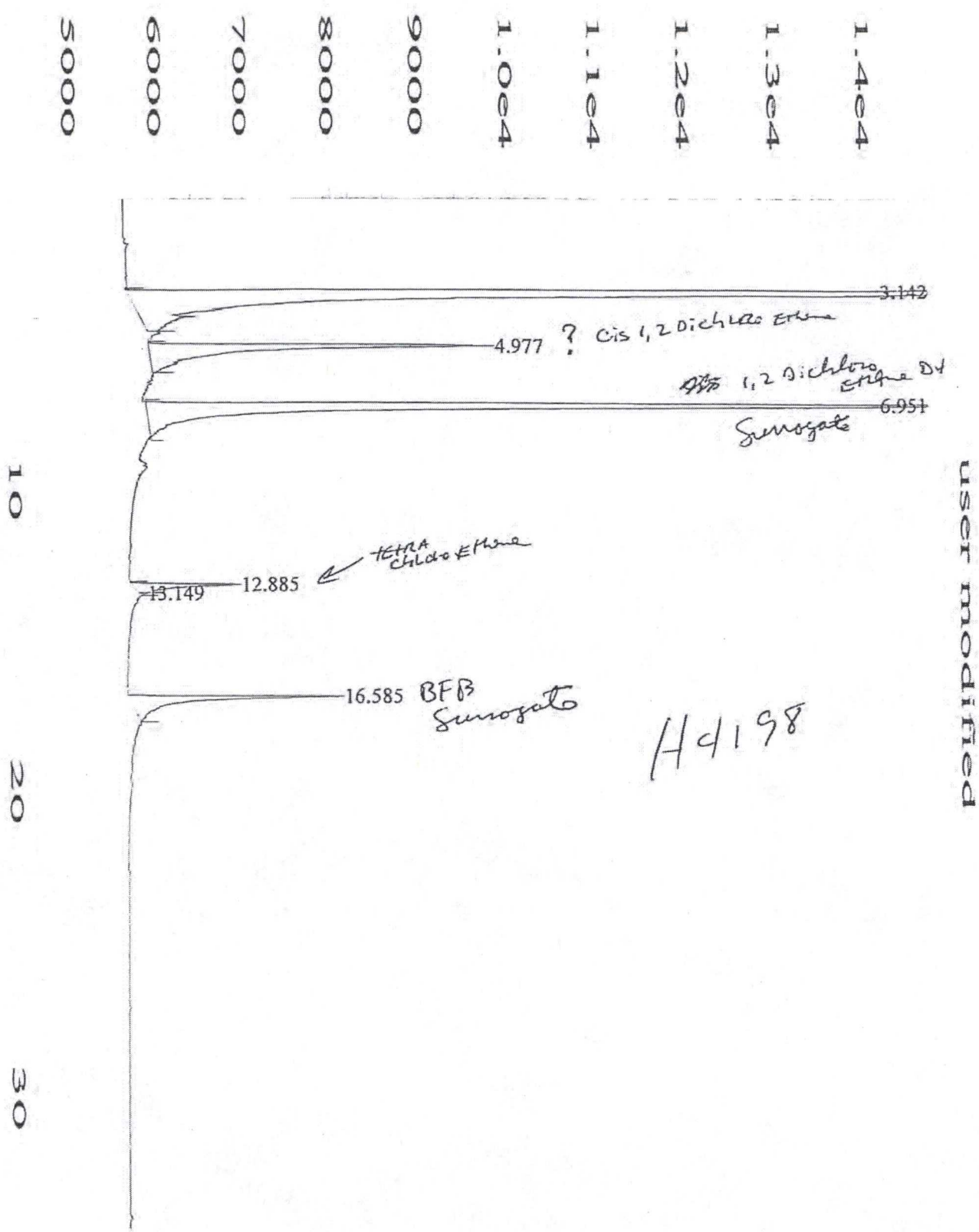
Page Number : 1
Vial Number : 63
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

SAMPLE #	MATRIX WEIGHT (grams)	MEOH WEIGHT (grams)	INJ. VOL uL	sample analyte area	SURR. IN SAMPLE
H4196	14.5	14.3	25	35818	24071
H4196	14.5	14.3	25	9728	24071
H4197	11.5	15.8000	25	29376	22441
H4197	11.5	15.8000	25	20814	22441
H4198	12.4	15.8000	25	53090	25739
H4198	12.4	15.8000	25	10625	25739

SAMPLE #	VOL. HAL CONC mg/Kg	VOLATILE HALOGENATED COMPOUND	surro-gate recovery
H4196	0.24	cis-1,2-dichloroethene	94.5
H4196	0.07	Tetrachloroethene	
H4197	0.28	cis-1,2-dichloroethene	88
H4197	0.21	Tetrachloroethene	
H4198	0.46	cis-1,2-dichloroethene	101
H4198	0.10	Tetrachloroethene	

These Results are Consistant with the 8260 Results

Det limit for cis 1,2 is .4
Det limit for tetra Cl Doro is .2



H4198

Data File Name : C:\HPCHEM\1\DATA\1-21-02\HALL0074.D
Operator : mark
Instrument : ANALYZER1
Sample Name :
Run Time Bar Code:
Acquired on : 19 Jan 02 04:19 PM
Report Created on: 23 Jan 02 11:28 PM

Page Number : 1
Vial Number : 74
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

Area Percent Report

H4198

ıta File Name : C:\HPCHEM\1\DATA\1-21-02\HALL0074.D
›erator : mark
ıstrument : ANALYZER1
ımple Name :
ın Time Bar Code:
›quired on : 19 Jan 02 04:19 PM
›port Created on: 23 Jan 02 11:28 PM

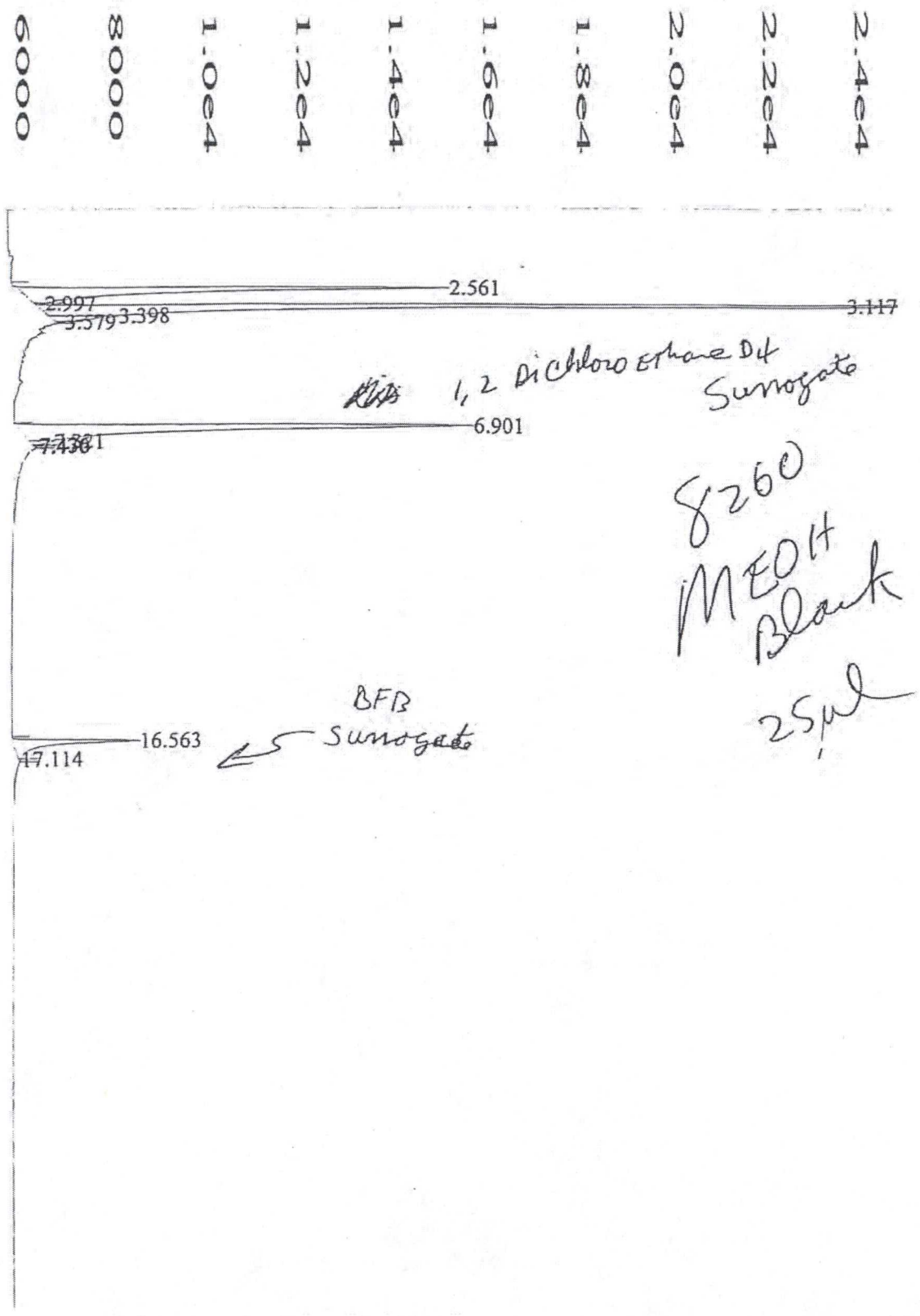
Page Number : 1
Vial Number : 74
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

-g. 2 in C:\HPCHEM\1\DATA\1-21-02\HALL0074.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	3.142	305666	32814	MM	0.155	58.5021
2	4.977	53090	3941	MM	0.225	10.1611
3	6.951	127147	9624	MM	0.220	24.3349
4	12.885	10625	1264	BV	0.108	2.0335
5	13.149	221	87	VB	0.042	0.0423
6	16.585	25739	2478	MM	0.173	4.9262

›tal area = 522488

ɜer Modified



Data File Name : C:\HPCHEM\1\DATA\1-23-02\HALL0056.D
Operator : mark
Instrument : ANALYZER1
Sample Name :
Run Time Bar Code:
Acquired on : 21 Jan 02 10:56 AM
Report Created on: 24 Jan 02 03:31 PM

Page Number : 1
Vial Number : 56
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

Area Percent Report

ata File Name : C:\HPCHEM\1\DATA\1-23-02\HALL0056.D
perator : mark
nstrument : ANALYZER1
ample Name :
un Time Bar Code:
cquired on : 21 Jan 02 10:56 AM
eport Created on: 24 Jan 02 03:31 PM

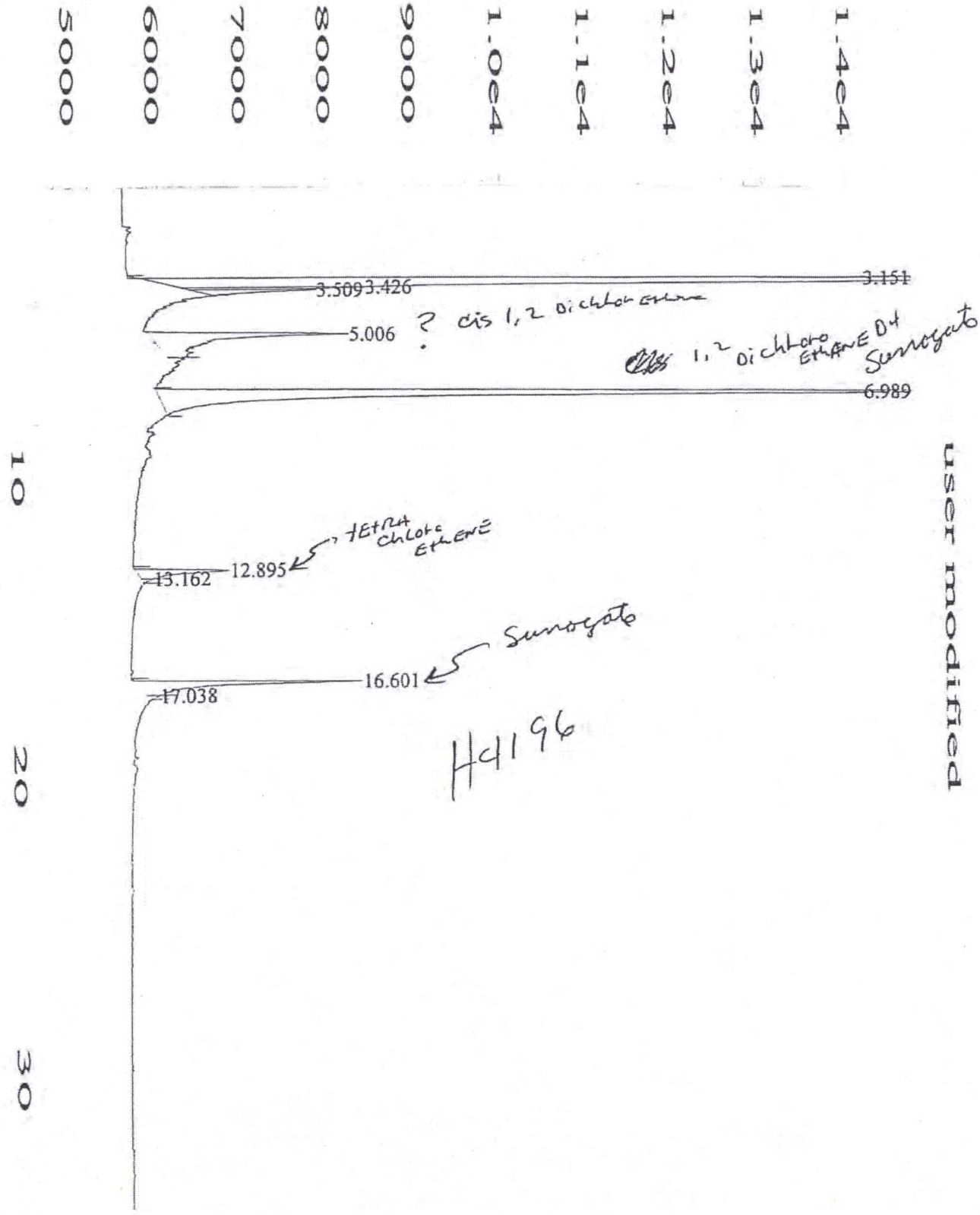
Page Number : 1
Vial Number : 56
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

ig. 2 in C:\HPCHEM\1\DATA\1-23-02\HALL0056.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	2.561	90694	9205	BV	0.137	21.1503
2	2.997	458	216	VV	0.030	0.1067
3	3.117	182290	25826	VV	0.097	42.5109
4	3.398	9584	1490	VV	0.107	2.2351
5	3.579	393	204	VV	0.032	0.0916
6	6.901	116726	9732	BV	0.144	27.2211
7	7.321	2570	515	VV	0.065	0.5993
8	7.436	271	139	VV	0.032	0.0631
9	7.470	180	95	VV	0.032	0.0420
10	16.563	25481	2695	BV	0.117	5.9424
11	17.114	161	54	VB	0.050	0.0375

'otal area = 428808

8260 MEOH Blank 25



H4196

ata File Name	: C:\HPCHEM\1\DATA\1-21-02\HALL0073.D		
perator	: mark	Page Number	: 1
nstrument	: ANALYZER1	Vial Number	: 73
ample Name	:	Injection Number	: 1
un Time Bar Code:		Sequence Line	: 1
cquired on	: 19 Jan 02 03:30 PM	Instrument Method	: VOA.MTH
eport Created on	: 23 Jan 02 11:27 PM	Analysis Method	: DEFAULT.MTH

Area Percent Report

H4196

ata File Name : C:\HPCHEM\1\DATA\1-21-02\HALL0073.D
perator : mark
nstrument : ANALYZER1
ample Name :
un Time Bar Code:
cquired on : 19 Jan 02 03:30 PM
eport Created on: 23 Jan 02 11:27 PM

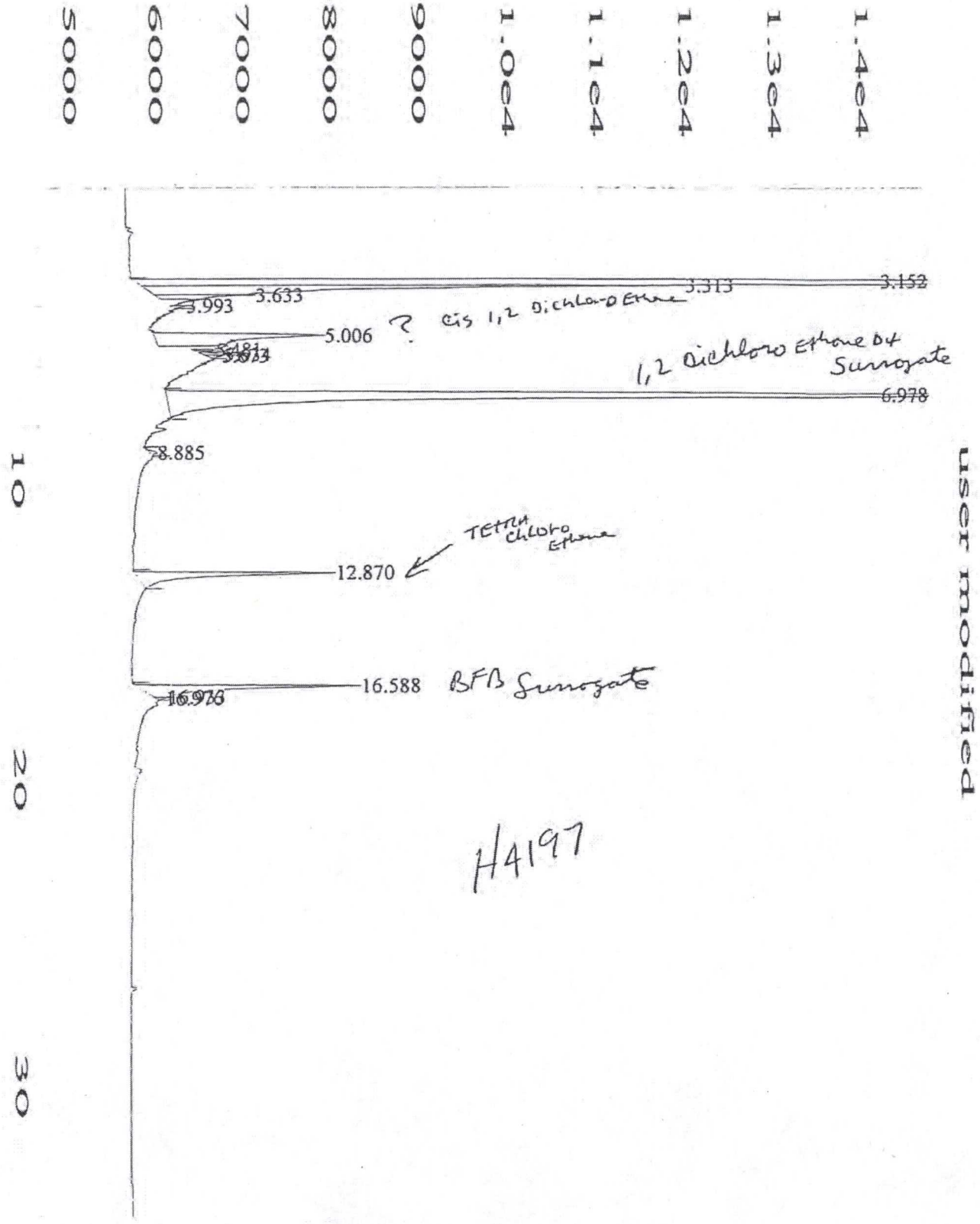
Page Number : 1
Vial Number : 73
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

ig. 2 in C:\HPCHEM\1\DATA\1-21-02\HALL0073.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	3.151	213164	28720	BV	0.106	50.9183
2	3.426	6405	2167	VV	0.049	1.5300
3	3.509	8301	1452	VF	0.074	1.9829
4	5.006	35818	2329	MM	0.256	8.5558
5	6.989	120129	9578	MM	0.209	28.6951
6	12.895	9728	1075	BV	0.118	2.3238
7	13.162	537	122	VB	0.073	0.1282
8	16.601	24071	2648	BV	0.121	5.7498
9	17.038	486	127	VV	0.050	0.1161

otal area = 418639

ser Modified



H4197

ata File Name : C:\HPCHEM\1\DATA\1-21-02\HALL0072.D
perator : mark
nstrument : ANALYZER1
ample Name :
un Time Bar Code:
cquired on : 19 Jan 02 02:40 PM
eport Created on: 23 Jan 02 11:26 PM

Page Number : 1
Vial Number : 72
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

Area Percent Report

H4197

ata File Name : C:\HPCHEM\1\DATA\1-21-02\HALL0072.D
perator : mark
nstrument : ANALYZER1
ample Name :
un Time Bar Code:
cquired on : 19 Jan 02 02:40 PM
eport Created on: 23 Jan 02 11:26 PM

Page Number : 1
Vial Number : 72
Injection Number : 1
Sequence Line : 1
Instrument Method: VOA.MTH
Analysis Method : DEFAULT.MTH

ig. 2 in C:\HPCHEM\1\DATA\1-21-02\HALL0072.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	3.152	205390	30435	BV	0.092	42.7766
2	3.313	48380	6151	VV	0.131	10.0761
3	3.633	6621	1147	VV	0.073	1.3790
4	3.993	560	180	VF	0.042	0.1165
5	5.006	29376	1956	MM	0.250	6.1182
6	5.481	663	245	FV	0.037	0.1380
7	5.634	943	232	VV	0.052	0.1964
8	5.673	620	176	VF	0.047	0.1291
9	6.978	143161	11219	MM	0.213	29.8161
10	8.885	620	87	BV	0.092	0.1292
11	12.870	20814	2292	BV	0.122	4.3350
12	16.588	22441	2542	BV	0.117	4.6738
13	16.933	225	156	VV	0.024	0.0468
14	16.976	332	101	VV	0.055	0.0692

otal area = 480146

ser Modified

Wy'East Environmental Sciences, Inc.

EPA Method 8260
Analyte: Volatile Organics in Soil

Field ID: **B5-011702**
Lab ID: H4196
Extraction date: 1-16-02

Site Name: **Park Hill hot**
Site Number: 4-2-001
Report Number: 40434

CAS#	Compound	Sample (mg/Kg)	Blank	Detection Limit
67-64-1	Acetone	ND	ND	1.9
71-43-2	Benzene	ND	ND	0.2
108-86-1	Bromobenzene	ND	ND	0.2
74-97-5	Bromochloromethane	ND	ND	0.2
75-27-4	Bromodichloromethane	ND	ND	0.2
75-25-2	Bromoform	ND	ND	0.2
74-83-9	Bromomethane	ND	ND	0.4
78-93-3	2-Butanone (MEK)	ND	ND	1.0
104-51-8	n-Butylbenzene	4.3	ND	0.2
135-98-8	sec-Butylbenzene	3.3	ND	0.2
98-06-6	tert-Butylbenzene	3.6	ND	0.2
56-23-5	Carbon tetrachloride	ND	ND	0.2
108-90-7	Chlorobenzene	ND	ND	0.2
75-00-3	Chloroethane	ND	ND	0.7
67-66-3	Chloroform	ND	ND	0.2
74-87-3	Chloromethane	ND	ND	0.2
95-49-8	2-Chlorotoluene	ND	ND	0.2
106-43-4	4-Chlorotoluene	ND	ND	0.2
128-48-1	Dibromochloromethane	ND	ND	0.2
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND	0.2
106-93-4	1,2-Dibromoethane	ND	ND	0.2
74-95-3	Dibromomethane	ND	ND	0.2
95-50-1	1,2-Dichlorobenzene	ND	ND	0.2
541-73-1	1,3-Dichlorobenzene	ND	ND	0.2
106-46-7	1,4-Dichlorobenzene	ND	ND	0.2
75-71-8	Dichlorodifluoromethane	ND	ND	0.5
75-34-3	1,1-Dichloroethane	ND	ND	0.2
107-06-2	1,2-Dichloroethane	ND	ND	0.2
75-35-4	1,1-Dichloroethylene	ND	ND	0.6
156-59-2	cis-1,2-Dichloroethylene	ND	ND	0.4
156-60-5	trans-1,2-Dichloroethylene	ND	ND	0.2
78-87-5	1,2-Dichloropropane	ND	ND	0.2
142-28-9	1,3-Dichloropropane	ND	ND	0.2
594-20-7	2,2-Dichloropropane	ND	ND	0.2

Lab ID:	H4196			
CAS#	Compound	Sample (mg/Kg)	Blank	Detection Limit
563-58-6	1,1-Dichloropropene	ND	ND	0.2
10061-01-5	cis-1,3-Dichloropropene	ND	ND	0.2
10061-02-6	trans-1,3-Dichloropropene	ND	ND	0.2
100-41-4	Ethylbenzene	0.4	ND	0.2
87-68-3	Hexachlorobutadiene	ND	ND	0.2
591-78-6	2-Hexanone	ND	ND	1.0
98-82-8	Isopropylbenzene	1.1	ND	0.2
99-87-6	p-Isopropyltoluene	4.1	ND	0.2
75-09-2	Methylene chloride	ND	5	1.5
1634-04-4	Methyl-t-butylether (MTBE)	ND	ND	0.6
108-10-1	4-Methyl-2-pentanone	ND	ND	1.0
91-20-3	Naphthalene	ND	ND	0.2
103-65-1	n-Propylbenzene	3.0	ND	0.4
100-42-5	Styrene	ND	ND	0.2
630-20-6	1,1,1,2-Tetrachloroethane	ND	ND	0.2
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND	0.2
127-18-4	Tetrachloroethylene	ND	ND	0.2
108-88-3	Toluene	ND	ND	0.2
87-61-6	1,2,3-Trichlorobenzene	ND	ND	0.4
120-82-1	1,2,4-Trichlorobenzene	ND	ND	0.4
71-55-6	1,1,1-Trichloroethane	ND	ND	0.2
79-00-5	1,1,2-Trichloroethane	ND	ND	0.2
79-01-6	Trichloroethylene	ND	ND	0.2
75-69-4	Trichlorofluoromethane	ND	ND	0.4
96-18-4	1,2,3-Trichloropropane	ND	ND	0.4
95-63-6	1,2,4-Trimethylbenzene	22.3	ND	0.2
108-67-8	1,3,5-Trimethylbenzene	12.0	ND	0.2
75-01-4	Vinyl chloride	ND	ND	0.5
1330-20-7	Total Xylenes	2.8	ND	0.2
	Surrogates:	Percent Recovery:		
460-00-4	4-Bromofluorobenzene	106		
107-06-2	1,2-Dichloroethane-d4	104		
108-88-3	Toluene-d8	105		

Report Number: 1404

WyEast
Environmental Sciences, Inc.

Research & Laboratory Services

CHAIN OF CUSTODY

PARK HILL HOT gas

2415 SE 11th Ave. • Portland, Oregon 97214 • (503) 231-9320 • FAX (503) 231-9344

PROJECT #	PROJECT NAME / SITE	STATE	PURCHASE ORDER #
4-2-001	~~MILLER SONS HOT~~	WASHINGTON	
COMPANY	**REPORT ATTENTION**	**PHONE NUMBER**	**FAX NUMBER**
PNE CORP.	JOE STURZA	(360) 423-6316	(360) 423-3409
SAMPLES COLLECTED BY	**DATE(S) COLLECTED**	**TIME(S) COLLECTED**	**SAMPLES CHILLED TO 4° C?**
JOE STURZA	01/17/02		YES
PRESERVATIVE USED? (HCl, etc.)			Regular ☒ 3-5 Days ☐
ICE			

FIELD ID	MEDIA	CONTAINER	VOLUME ETC	ANALYSIS REQUIRED	LAB ID
A1-011702	SOIL	16oz Glass Jar		NWTPH-HCID	H4187
A2-011702	↓	↓		NWTPH-HCID	H4188
A3-011702	↓	↓		NWTPH-HCID	H4189
A4-011702	↓	↓		NWTPH-HCID	H4190
AS1-011702	↓	↓		NWTPH-HCID	H4191
B1-011702	↓	↓		NWTPH-Dx	H4192
B2-011702	↓	↓		NWTPH-Dx	H4193
B3-011702	↓	↓		NWTPH-Dx	H4194
B4-011702	↓	↓		NWTPH-Dx	H4195
BS-011702	↓	↓		NWTPH-Dx, 8260 EPA	H4196
BS1-011702	↓	↓		NWTPH-HCID, NWTPH-Dx, EPA 8260	H4197
BS2-011702	↓	↓		NWTPH-Dx, EPA 8260	H4198

RELINQUISHED BY	DATE / TIME	RECEIVED BY	DATE / TIME
[signature]	01/17/02-1340		
RELINQUISHED BY	DATE / TIME	RECEIVED BY LAB	DATE / TIME
		[signature] 1/17/02	13:40

Submission of samples with testing requirements to WyEast Environmental Sciences will be understood to be an agreement for services in accordance with the conditions listed on the back of the client copy

APPENDIX E

Soil Recycling Manifests

Manifest

TPS Technologies Soil Recycling

Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #
1/23/02	Consultant	Taylor Transp	509	06830	001

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
STEVEN MEMOVICH 3505 ROYAL OAKS DR. VANCOUVER, WA 98662 USA	(360) 883-0617	
	Person to Contact: STEVEN	
	FAX #: (360) 969-0979	Customer Account Number with TPS: 9STEMEM

Consultant's Name and Billing Address:	Consultant's Phone #:	
PACIFIC NORTHERN ENVIRONMENTAL 1081 COLUMBIA BLVD LONGVIEW, WA 98632 USA	(360) 423-6216	
	Person to Contact: JOE STURZA	
	FAX #: (360) 423-3409	Customer Account Number with TPS: 1000497

Generation Site (Transport from): *(name & address)*	Site Phone #:	BTEX Levels
PARK HILL SHOPPING CENTER 6400 EAST MILL PLAIN BLVD JOB PO# 55686 VANCOUVER, WA 98661 USA	(360) 883-0617	TPH Levels
	Person to Contact: STEVEN	AVG. Levels
	FAX #: (360) 969-0979	

Designated Facility (Transport to): *(name & address)*	Facility Phone #:	Facility Permit Numbers
TPST SOIL RECYCLERS OF OREGON 9333 N HARBORGATE STREET PORTLAND, OR 97203 USA	503-735-9525	
	Person to Contact: SHARON QUAST	
	FAX #: 503-240-1710	

Transporter Name and Mailing Address:	Transporter's Phone #:	Transporter's US EPA ID No.:
	Person to Contact:	Transporter's DOT No.:
	FAX #:	Customer Account Number with TPS:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			43760	43180	
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			70520	35,26	

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐	Signature and date:	Month	Day	Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Jay ASPAAS	Signature and date:	Month	Day	Year

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: SHARON QUAST / JOE WOMACK	Signature and date:

Please print or type.

TPS FACILITY COPY

Manifest

TPS Technologies Soil Recycling
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #
1-23-02	Consultant	Taylor Transport	509	06830	001

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
STEVEN MEMOVICK 3505 ROYAL OAKS DR. VANCOUVER, WA 98662 USA	(360) 883-0617	
	Person to Contact: STEVEN	
	FAX #: (360) 969-0979	Customer Account Number with TPS: 9STEMEM
Consultant's Name and Billing Address:	**Consultant's Phone #:**	
PACIFIC NORTHERN ENVIRONMENTAL 1081 COLUMBIA BLVD LONGVIEW, WA 98632 USA	(360) 423-6316	
	Person to Contact: JOE STURZA	
	FAX #: (360) 423-3409	Customer Account Number with TPS: 1000497
Generation Site (Transport from): *(name & address)*	**Site Phone #:**	BTEX Levels
PARK HILL SHOPPING CENTER 6400 EAST MILL PLAIN BLVD JOB PO# 55686 VANCOUVER, WA 98661 USA	(360) 883-0617	
	Person to Contact: STEVEN	TPH Levels
	FAX #: (360) 969-0979	AVG. Levels
Designated Facility (Transport to): *(name & address)*	**Facility Phone #:**	**Facility Permit Numbers**
TPST SOIL RECYCLERS OF OREGON 9333 N HARBORGATE STREET PORTLAND, OR 97203 USA	503-735-9525	
	Person to Contact: SHARON QUAST	
	FAX #: 503-240-1712	
Transporter Name and Mailing Address:	**Transporter's Phone #:**	**Transporter's US EPA ID No.:**
	Person to Contact:	Transporter's DOT No.:
	FAX #:	Customer Account Number with TPS:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0-10% ☐ 10-20% ☐ 20%-over ☐	Gas ☐ Diesel ☐ Other ☐			64840	43200	
Sand ☐ Organic ☐ Clay ☐ Other ☐	0-10% ☐ 10-20% ☐ 20%-over ☐	Gas ☐ Diesel ☐ Other ☐			61640	30.82	

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐	Signature and date:	Month	Day	Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
Jay ASPAAS		1	23	02

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
SHARON QUAST / JOE WOMACK	

Please print or type.

APPENDIX F

UST Nest Recycled Fill Laboratory Report

nca™
www.ncalabs.com

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TPS Technologies	Project: Regular Jobs	
9333 N. Harborgate Street	Project Number: NA	Reported:
Portland, OR 97203	Project Manager: Joe Womack	01/21/02 17:31

Gasoline Hydrocarbons per NW TPH-Gx Method
North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
6635 (P2A0399-01) Soil					Sampled: 01/15/02 Received: 01/16/02				
Gasoline Range Hydrocarbons	ND	2.00	mg/kg dry	1	NW TPH-Gx	01/16/02	01/16/02	2010481	
Surr: a,a,a-TFT	*70.0 %*	*50-150*							
6635 (P2A0399-02) Soil					Sampled: 01/15/02 Received: 01/16/02				
Gasoline Range Hydrocarbons	ND	2.00	mg/kg dry	1	NW TPH-Gx	01/16/02	01/16/02	2010481	
Surr: a,a,a-TFT	*78.4 %*	*50-150*							

BACKFILL SOIL FROM TPS.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Brian L Cone

Brian Cone, Industrial Services Manager

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TPS Technologies	Project: Regular Jobs	
9333 N. Harborgate Street	Project Number: NA	Reported:
Portland, OR 97203	Project Manager: Joe Womack	01/21/02 17:31

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method
North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
6635 (P2A0399-01) Soil						Sampled: 01/15/02	Received: 01/16/02		
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	01/18/02	01/19/02	2010542	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*103 %*	*50-150*							
6635 (P2A0399-02) Soil						Sampled: 01/15/02	Received: 01/16/02		
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	01/18/02	01/19/02	2010542	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*105 %*	*50-150*							

Backfill soil
From TPS.

North Creek Analytical - Portland

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Brian L Cone

Brian Cone, Industrial Services Manager

B Photographic Log

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CUSTOM CARE CLEANERS
Vancouver, Washington

TDD Number: 13-09-0005
Photographed by: Derek Pulvino

Photo 1 Northeast corner of Custom Care Cleaners. Retail entrance and counter are in photo.

Direction: Southwest *Date: 5/30/14* *Time: 15:10*

Photo 2 North side of Custom Care Cleaners.

Direction: East-Southeast *Date: 5/30/14* *Time: 15:11*

Photo 3 Park Hills Cemetery located adjacent to the west side of the Custom Care Cleaners space.

Direction: South *Date: 5/30/14* *Time: 15:11*

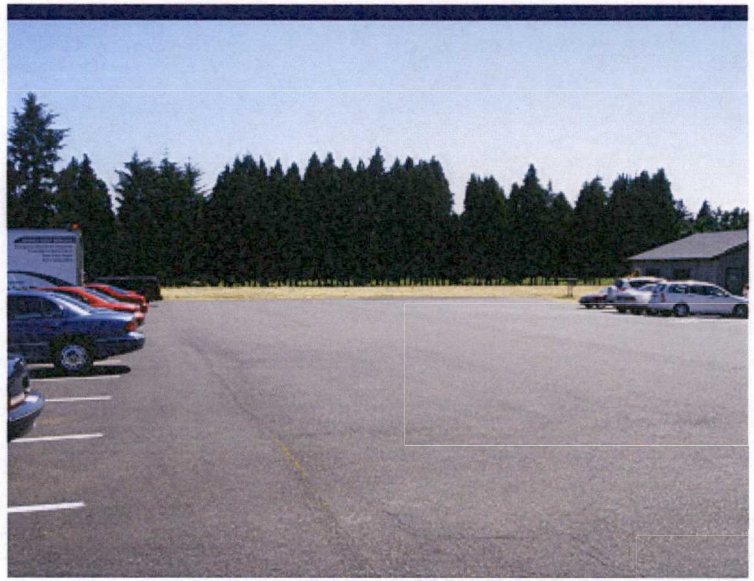

Photo 4 Southern portion of property associated with Park Hill Shopping Center.

Direction: South *Date: 5/30/14* *Time: 15:16*

CUSTOM CARE CLEANERS
Vancouver, Washington

TDD Number: 13-09-0005
Photographed by: Derek Pulvino

Photo 5 Southern side of Park Hill Shopping Center. Custom Care Cleaners and cemetery visible on far left side of photo.

Direction: Northwest *Date: 5/30/14* *Time: 15:17*

Photo 6 West side of Custom Care Cleaners tenant space.

Direction: North *Date: 5/30/14* *Time: 14:59*

Photo 7 Front retail counter and clothes storage in Custom Care Cleaners.

Direction: North *Date: 5/30/14* *Time: 14:29*

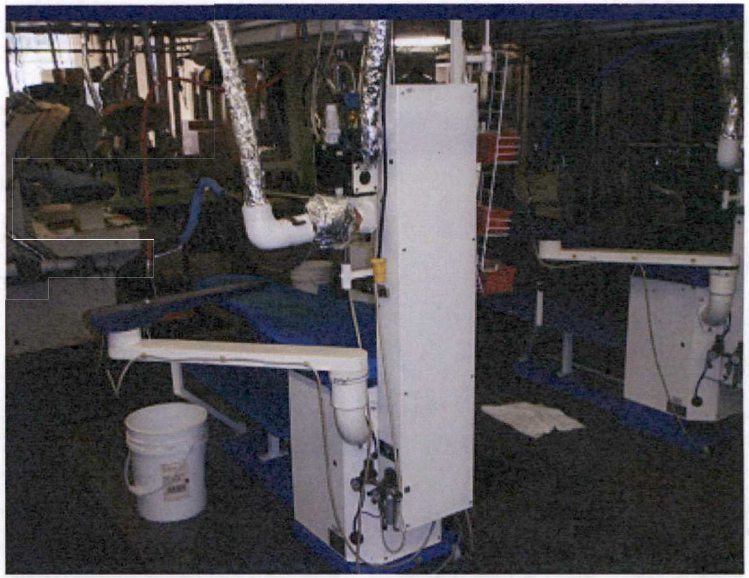

Photo 8 View of steam presses in center of Custom Care Cleaners space.

Direction: South *Date: 5/30/14* *Time: 14:28*

Photo 9 Water heater/boilers near southeast corner of Custom Care Cleaners.

Direction: East *Date: 5/30/14* *Time: 14:30*

Photo 10 Dry cleaning machines located in SW corner of Custom Care Cleaners. All use "green" dry cleaning solvent.

Direction: South *Date: 5/30/14* *Time: 14:23*

Photo 11 Stills/filters associated with green dry cleaning machines.

Direction: North-Northwest *Date: 5/30/14* *Time: 14:25*

CUSTOM CARE CLEANERS
Vancouver, Washington

TDD Number: 13-09-0005
Photographed by: Derek Pulvino

Photo 12 View of containers in southwest corner of Custom Care Cleaners, located near dry cleaning machines in Photo 10.

Direction: North *Date: 5/30/14* *Time: 14:24*

Photo 13 Inside of southern area of Custom Care Cleaners. Broken CMU blocks show south end of demolished n/s wall.

Direction: Southeast *Date: 5/30/14* *Time: 14:23*

Photo 14 Northern edge of former N/S wall in southern part of Custom Care Cleaners.

Direction: North *Date: 5/30/14* *Time: 14:54*

Photo 15 South addition to Custom Care Cleaners. Sewer cap visible. Breaker panels also visible in PNE's "South UST Excavation" photo.

Direction: North-Northwest *Date: 5/30/14* *Time: 14:49*

Photo 16 South exterior of Custom Care Cleaners. Area left of downspout is location of new CMU wall. Patches are on right.

Direction: North-Northwest *Date: 5/30/14* *Time: 14:20*

Photo 17 Closer, straight-on view of seam between new (left) and old (right) sections of southern Custom Care Cleaners exterior wall.

Direction: South *Date: 5/30/14* *Time: 14:53*

Photo 18 Additional patches on exterior of CMU wall for Custom Care Cleaners. Wall pictured is the western wall of tenant space.

Direction: Northeast *Date: 5/30/14* *Time: 14:38*